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CANADA 1958

Government
Publications



Murdoch M. MacLeod

A Day to Remember—October 14, 1957—a day of ceremonial grandeur and history-making, when Her Majesty Queen Elizabeth II, accompanied by His Royal Highness the Prince Philip, drove through the golden splendour of an autumn day to open a Session of the Canadian Parliament, a duty never before performed by a reigning Monarch. Half a million people cheered their vivid leave-taking.

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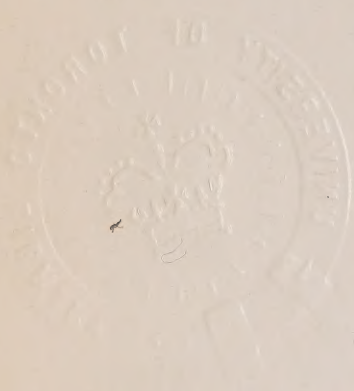
*The Official Handbook
of Present Conditions
and Recent Progress*

Prepared in the
Canada Year Book Section
Information Services Division
Dominion Bureau of Statistics
Ottawa

Published under the authority of
The Honourable GORDON CHURCHILL
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OTTAWA, 1958

Foreword

THE illustrated Canada Handbook offers to the Canadian public and to the peoples of other lands a factual, annual survey of the Canadian economy set in a statistical background and illuminated with illustrations of the recent economic, social and cultural development of the nation. In text and tables, in layout and illustrations, *Canada 1958* seeks to portray the present conditions of the Canadian people, their richly endowed resources, their democratic institutions and way of life, and their dynamic economy.

Apart from its special features, *Canada 1958* draws on the same official sources of the Dominion Bureau of Statistics and the various departments of the Government of Canada that contribute to the larger reference volume, the *Canada Year Book*. The illustrations are selected from a wide range of governmental, commercial, press and private sources.

Canada 1958 is produced in the Canada Year Book Section of the Information Services Division—Miss M. Pink, Assistant Editor and Chief of the Section; Dr. C. C. Lingard, Editor and Director of the Division.

A handwritten signature in dark ink, reading "Walter E. Duffett." The signature is written in a cursive style with a large initial 'W' and a long, sweeping underline.

Dominion Statistician

Dominion Bureau of Statistics,
Ottawa, May 15, 1958.

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Gatineau River, by Ross Jackson

*"Land of the matchless march of lake and stream!
Land of the virile seasons!"*

Canada - East, West and North

CANADA occupies a highly strategic place in the world by virtue of its geographical location in the western and northern hemispheres, its vast storehouse of natural resources, and its historical traditions linking it with the cultural heritage of Western Europe.

Surpassed in size only by the Union of Soviet Socialist Republics, Canada's area of 3,851,000 sq. miles comprises the northern half of North America, with the exception of Alaska and Greenland. Shaped like a distorted parallelogram, Canada's four corner salients tend to emphasize its strategic position as nearest neighbour to the paramount powers of the modern world. On the south, the salient of peninsular Ontario thrusts deep (to latitude 41° 41') into the industrial heart of the United States with which Canada shares intimate social and industrial contacts across 4,000 miles of common boundary. On the north, the vast Canadian Arctic Archipelago guards the approaches of this Continent from the Eurasian land mass and makes Canada in the new age of air transportation neighbour to the U.S.S.R. On the east lies the Province of Newfoundland, commanding the shortest Atlantic routes to the United Kingdom and France—homelands of Canada's dual cultural traditions. On the west, the Province of British Columbia, flanked by Alaska, faces the populous far eastern nations of Japan and China across the North Pacific.

Physiographic Regions.—This land of Canada, standing astride the cross-roads of the world at the dead centre of the new heartland of air geography and peopled by only two-thirds of one per cent of the world's population, may be divided into at least seven natural physiographic regions whose characteristics have made the role of transcontinental nation-building both arduous and challenging in the extreme.

Especially is this true of the Canadian Shield, a vast rugged area of very old Precambrian rocks surrounding Hudson Bay and comprising nearly one-half the country. Stretching from the Mackenzie River basin in the northwest to the eastern tip of Labrador, it tapers southward to end in the most westerly of the Great Lakes. As a result of glaciation, the Shield is characterized by countless valley-filled lakes, rocky ridges, rounded knobs of rugged terrain, and precipitous rivers, thereby providing Canada with the major source of its hydro-electric power. The Shield, long held to be the great physical barrier to national unity, has now under the impact of intensive exploration and development become a vital national asset—a strong unifying factor linking the western provinces with the industrial and more populous east. For it is in the Shield—East, West and North—that Canada finds its principal and yet largely untapped sources of base metals which, linked with abundant energy and forest resources, provide the nation with the fundamental elements of industrial power.



The worn fold mountains of the very old Appalachian system, with their pleasant fertile valleys, run through Canada's eastern provinces to the Atlantic where they present an intricate and beautiful coastline—a haven for the fishing fleets and a delight to the tourist.

Flanking the Canadian Shield to the south and southeast lies the Great Lakes-St. Lawrence Lowlands, a flat and fertile plain shaped like a triangle and bounded by Georgian Bay, Lake Ontario and the St. Lawrence. Here, rich farmlands and orchards and thriving cities and towns replace ancient stands of pine—once the principal staple of a colonial economy—and support two-thirds of Canada's population.

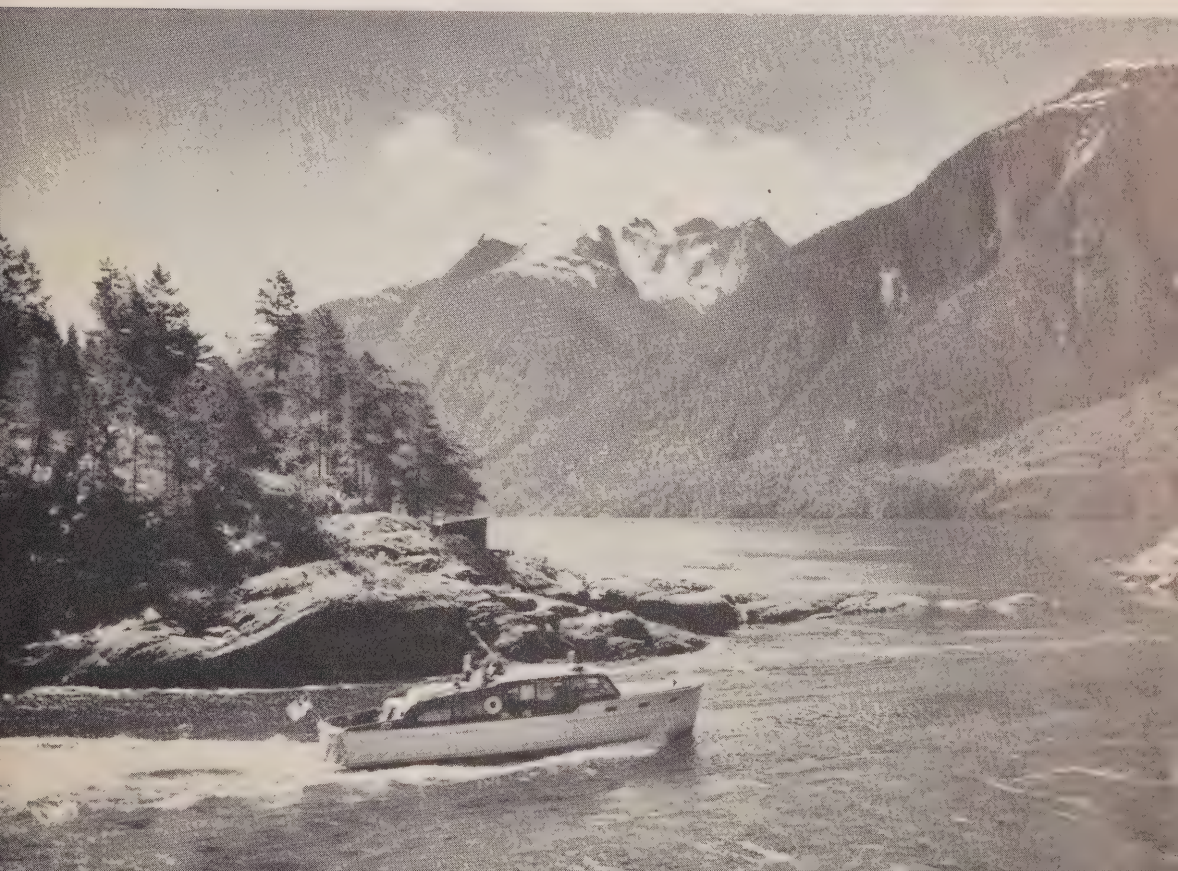
To the west of the Shield and extending to the Rocky Mountains lies the expansive Western Interior Lowlands of the Canadian prairies and the basin of the Mackenzie. Some 800 miles in width along the southern border and tapering to 100 miles at the mouth of the Mackenzie, these Lowlands are an extension of the great central plains of the Continent. The Prairies extend westward in three levels or steps with elevations averaging 700 feet, 2,000 feet and about 4,000 feet, respectively. Glacial lakes laid down fertile clays and other marine sediments which today form some of the flattest and most productive farmlands, while elsewhere the scene is one of rather hummocky ground, innumerable sloughs and slightly rolling surfaces, suited especially to ranching. Cutting through the escarpments that divide the steps are the two arms of the Saskatchewan River and its tributaries flowing from the Rockies to Lake Winnipeg. Rich mineralized belts in the northern portions have given rise to such mining areas as Flin Flon, Mystery-Moak Lake, Goldfields and Uranium City, while the prairies in general are underlain with fuel-bearing formations providing abundant resources of oil and gas. To the

far north lies the huge area of the Mackenzie Lowland with its innumerable rivers and lakes, some stretches of reasonably good agricultural and forest lands, and vast potential mineral and oil resources, not the least being the lead and zinc deposits at Pine Point on the south shore of Great Slave Lake, and the Athabasca tar sands.

To the east of the Shield lies the Canadian Appalachian region, comprising the Maritime Provinces, the Island of Newfoundland and the hilly portion of Quebec south of the St. Lawrence River. Between the complex mass of mountain ranges, planed down to a moderate elevation by prolonged erosion, are broad river valleys and sheltered plains where agriculture thrives, while large deposits of lead and zinc, iron and coal are worked at such centres as Bathurst, Buchans, Wabana and Sydney. Lumbering on the forest-clad hills and fishing from the bays of a much-indented coast further diversify the industrial life of this region.

British Columbia and the Yukon Territory comprise the Western Cordilleras, Canada's westernmost region. It extends from western Alberta to the Pacific Ocean and embraces the Rocky Mountain system, the interior plateaux, the Coastal Range, the inner passage along the coast, and the outer arc of islands. Complex in structure, the region possesses lofty mountain peaks, deep valleys, low mountain passes, spectacular gorges, fertile river basins, broad plateaux, and glacial-cut fjords that provide a highly indented shoreline of the utmost value for coastal fisheries. Although agriculture is limited to the Fraser delta and a few interior valleys, the precipitous rivers and

Most of British Columbia and Yukon Territory is made up of a portion of the great Cordilleran system of mountains that borders the Pacific Coast of South, Central and North America. The mountains of the Coast Range, their lower slopes clothed in green, drop steeply into the sea.



mountain lakes constitute an abundant source of hydro-electric power for the service of industry based largely upon mineral and forest resources.

The two remaining regions—the Hudson Bay Lowlands and the Arctic Archipelago, the latter a composite area of many large islands—are at present of little economic value although preliminary geological surveys indicate that the Arctic may be rich in minerals and petroleum.

Land and Water Areas

The following table shows the land and water areas of Canada distributed by provinces.

Approximate Land and Fresh-Water Areas of the Provinces and Territories

Province or Territory	Land	Fresh Water	Total
	sq. miles	sq. miles	sq. miles
Newfoundland (incl. Labrador).....	143,045	13,140	156,185
Prince Edward Island.....	2,184	--	2,184
Nova Scotia.....	20,743	325	21,068
New Brunswick.....	27,473	512	27,985
Quebec.....	523,860	71,000	594,860
Ontario.....	333,835	78,747	412,582
Manitoba.....	211,775	39,255	251,030
Saskatchewan.....	220,182	31,518	251,700
Alberta.....	248,800	6,485	255,285
British Columbia.....	359,279	6,976	366,255
Yukon Territory.....	205,346	1,730	207,076
Northwest Territories.....	1,253,438	51,465	1,304,903
Canada.....	3,549,960	301,153	3,851,113

The total area classified by tenure is as follows:—

<u>Sq. miles</u>	<u>Sq. miles</u>
Alienated from the Crown or in process of alienation..... 378,477	Provincial lands other than provincial parks and provincial forest reserves..... 1,633,183
Federal lands other than leased lands, national parks, Indian reserves and forest experiment stations..... 1,531,019	Provincial parks..... 59,516
National parks..... 29,290	Provincial forest reserves.... 210,241
Indian reserves..... 9,201	TOTAL AREA..... 3,851,113
Federal forest experiment stations..... 186	

The high figure for federal land is accounted for by the fact that it includes the total area of the Yukon and Northwest Territories. All unalienated lands within the provinces are administered by the provincial governments. Of Canada's land area of 3,549,960 sq. miles, 7.7 p.c. is occupied agricultural land—under crop, in woodland or unimproved. Forested land, both productive and unproductive, accounts for 46 p.c. of the total and the remainder includes rock, muskeg, urban land, road allowances, etc.

Natural Drainage.—Canada abounds in fresh-water lakes and rivers vital to the industrial life of the nation. A predominating influence once again is the Hudson Bay depression at the heart of the Canadian Shield, for it drains almost half the mainland of Canada through the Nelson-Saskatchewan River system (which has a total length of 1,600 miles from its source in the Rockies), the 1,000 mile-long Churchill, the Severn, the Albany and other rivers.

The Alaska Highway skirts the northern fringe of the St. Elias Mountains diagonally across southwestern Yukon Territory. The St. Elias range contains the highest mountain peaks in Canada.



An area of some 900,000 sq. miles drains to the Arctic Ocean, principally by way of the Mackenzie River—Canada's longest river, measuring 2,635 miles from its source in the headwaters of the Finlay. The Mackenzie drainage basin with its large lakes—Great Bear, Great Slave and Athabasca—provides a vital transportation route for the Northwest Territories.

Although the Rocky Mountains are the source of numerous shorter rivers that reach the Pacific through deep canyons, the Yukon, the Fraser and the Columbia are the principal drainage systems of the Yukon Territory and the interior of British Columbia.

Dominating the water transport picture of Canada is the St. Lawrence-Great Lakes system which forms a remarkable inland waterway for over 2,000 miles into the heart of the Continent and drains an area of about 360,000 sq. miles in Quebec and Ontario. The completion of the St. Lawrence Waterway in the spring of 1959 will enable ocean-going vessels to travel to the Head of the Lakes, will permit greatly increased movement of bulk cargoes of iron ore, grain, lumber, pulp and newsprint by large lake freighters, and make possible an ever-increasing concentration of industrial enterprise at numerous inland ports along this major traffic artery of world commerce.

This great waterway, during the pioneering period, constituted one of the principal components in the Canadian endeavour to build and maintain a transcontinental nation despite the north-south topographical barriers that tended to link the Maritimes with New England, Ontario with Ohio, the Canadian Prairies with the American West, and British Columbia with the Pacific States of its southern neighbour. Moreover, other latitudinal features in Canada's drainage system, such as the St. John River affording a route from the Bay of Fundy across the Appalachians down to the interior lowlands, the South and North Saskatchewan leading to passes through the Rockies, and the Thompson, Fraser and Skeena Rivers through the Coast Range to the Pacific augmented the St. Lawrence and north shore of the Great Lakes in providing the geographical reinforcements to east-west political and economic organization that enabled Canada to identify itself *a mari usque ad mare*.

Climate

Extending over a territory from 42° to 83° N. latitude—almost half the distance from the Equator to the North Pole—the climates of Canada lie mostly within the cool temperate zones, with the exception of the boreal or subarctic zone and the remote north which is in the Arctic zone. Cool temperate zones, which stretch across southern Canada from Atlantic to Pacific, are characterized by relatively short summers and long winters, by the predominance of polar air masses, by a high frequency of storms and a prevalence of spring and autumn frosts. The southern limit of these cool temperate zones is marked by the average temperature of the coldest month, below 27°F.; the northern limit by the mean of the hottest month, over 50°F.—which July mean serves also to indicate the southern limit of the Arctic climates and the northern limit of forest. Although somewhat severe, these cool temperate climates are stimulating rather than inhibiting in their effects; they challenge rather than frustrate. They may have prevented men from doing much with the land in earlier times when technology was limited and when there was no pressure on space in warmer and easier climatic zones. But since men have learned how to adjust their housing, clothing, food and transportation and have acquired the kinds of tools and bred the species of plants and animals suited to the environment, these climates have been an advantage rather than a deterrent to progress.

*Temperature and Precipitation Data for Certain Localities
in Canada*

Station	Length of Record Yrs.	Temperature (deg. Fahrenheit)					Precipitation	
		Av. Annual	Av. January	Av. July	Ex- treme High (1921-50)	Ex- treme Low (1921-50)	Av. Annual (inches)	No. of Days
Gander, Nfld.....	14	39.2	19.0	62.1	91	-16	39.50	199
St. John's (Torbay) Nfld.....	10	40.6	23.9	59.4	86	-10	59.99	208
Charlottetown, P.E.I.....	30	42.5	18.8	66.6	98	-23	43.13	162
Halifax, N.S.....	30	44.4	24.4	65.0	94	-21	54.26	156
Sydney, N.S.....	30	42.8	22.7	65.0	98	-23	50.61	165
Saint John, N.B....	30	42.0	19.8	61.8	93	-21	47.69	168
Arvida, Que.....	19	36.6	4.2	65.2	95	-42	38.77	176
Montreal, Que.....	30	43.7	15.4	70.4	97	-29	41.80	164
Fort William, Ont..	30	36.8	7.6	63.4	91	-38	27.62	142
Toronto, Ont.....	30	47.0	24.5	70.8	105	-22	30.94	145
Churchill, Man.....	21	18.8	-16.4	55.0	90	-50	14.41	101
Winnipeg, Man.....	30	36.6	0.6	68.4	108	-43	19.72	118
Regina, Sask.....	30	36.7	2.3	66.6	110	-54	15.09	109
Beaverlodge, Alta..	30	36.1	9.7	60.2	98	-53	17.32	127
Calgary, Alta.....	30	39.0	15.8	62.4	97	-46	17.47	101
Nelson, B.C.....	30	45.8	24.4	67.2	103	-17	28.52	131
Victoria, B.C.....	30	50.2	39.2	60.0	95	6	26.18	144
Dawson, Y.T.....	30	23.8	-16.0	59.8	95	-73	13.99	117
Coppermine, N.W.T.....	19	11.7	-19.0	49.0	87	-58	10.87	103

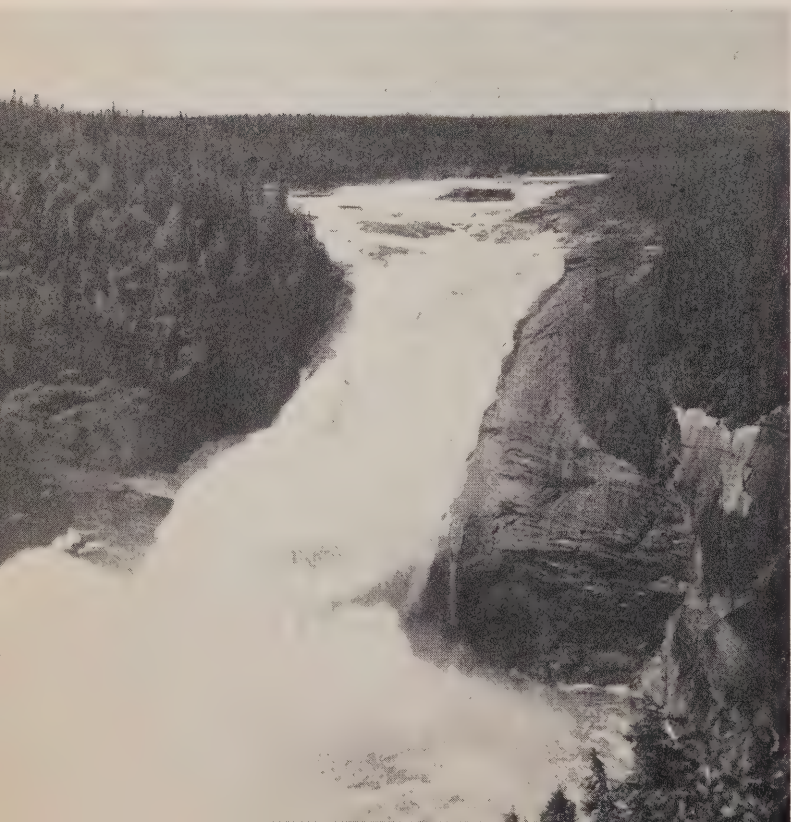
Of course the cool temperate climate may be divided into a number of types, such as the humid type with a warm summer found in southern peninsular Ontario, in the lower Ottawa valley and in the Montreal plains and Eastern Townships of Quebec; the humid type with a cool summer is much



*From unaccustomed height I see my own land
Broad and free!
Horizons moved beyond the daily sphere,
Reaching vibrant and unfettered into the mists of tomorrow.*

more widespread and includes the Avalon Peninsula of Newfoundland, the Maritimes, the edge of the Shield in Quebec and Ontario and the northern fringe of the prairies from Winnipeg to Edmonton; the humid type of climate with a severe winter has the widest range of all, extending from the intermediate slopes of the Coast Mountains of British Columbia to the northern half of Newfoundland—this, however, is not the climate of the most settled zone but of the pioneer zone; the humid type of climate with cool summers and mild winters is found along the Pacific Coast of British Columbia and in the offshore islands. Semi-arid to arid climates occur in the extreme interior of the Continent and in the Arctic; the former (in southern Alberta) because of isolation from maritime influences and the latter because of prolonged cold.

A tour of this land of Canada, from Newfoundland guarding the mouth of the Gulf of St. Lawrence westward to Vancouver Island off the coast of British Columbia, might require many months of leisurely travel for one concerned with visiting each of the seven major geo-political regions that comprise the Canadian half of the Continent. The overriding impression of the traveller would invariably be one of illimitable distance and extreme variety, whether viewed from a de luxe dome car of a transcontinental railway or from a Trans-Canada aircraft. From the fishing coves along the Atlantic shore to the forest-clad coasts of the Pacific, past the smoke stacks of the industrial heartland and the rich rolling miles of farms, through the western sea of waving grain and ranch lands and the oil-gushing prairies, to the grandeur of the Rockies and the wealth of the northland mines—the realization of such variety and of such expanse both unite and inspire the Canadian people with a sense of common possession.



Grand Falls on the Hamilton River, Labrador, is considered the most powerful waterfall in North America. It has a potential of 4,000,000 h.p. which can be developed economically in stages, initially as low as 135,000 h.p. Preparatory construction work has been completed and plans are ready for implementation on short notice.

Newfoundland



THE visitor to Newfoundland—whether landing at Gander airport, disembarking in St. John's harbour, or traversing the island by rail from Port aux Basques in the southeast northward to the capital of St. John's—will find an economy and a mode of life very different from that of most other regions of Canada. For although it is the newest and most easterly province of Canada, entering Confederation as recently as 1949, Newfoundland's story extends back to the time of John Cabot's report (1497) that "the sea there is swarming with fish". Thereafter, the abundance of cod on the Grand Banks off the south coast and in the inshore waters brought the fishing fleets of England and other maritime nations to Newfoundland. Although the first formal attempt at colonization was delayed until 1610 (Conception Bay), a proud, independent, sturdy, freedom-loving people have for three centuries wrung a precarious livelihood from salted and dried cod and timber and developed a vigorous and individual culture in their isolated villages, hidden away in the bays and inlets of 6,000 miles of rugged and rocky barren shore.

Today a revolution is taking place which is tending to moderate the harsh life of the Newfoundland fisherman. The smaller fishing craft are being modernized and the schooners replaced by large trawlers, 'longliners' and 'draggers', powered with diesel engines and equipped with navigational and mechanical aids—making fishing safer and less arduous, widening the range of fishing grounds and greatly increasing the output per man. Some salted cod is still dried on the 'flakes' in the outports much as it was in the 18th Century, but government research and aid in the construction of freezing and processing plants and the use of refrigerated ships has led to marked expansion in Newfoundland's fresh and frozen fish trade.

The Newfoundland Government is also endeavouring to improve the living standard of the fisher-folk along the southern coast by gradually moving them to the larger and more central communities possessing the new freezing, processing and drying plants, where they may enjoy the benefits of diversified employment, transport and communications, of better housing and schools and of adequate medical services. Although a large-scale migration from the less prosperous areas is perhaps not contemplated, it has been estimated that well over a third of the Newfoundland fishermen appear to have taken up other employment since 1947—a logical trend in any industry when increased productivity is made possible through the application of mechanization and new scientific methods.

Much is also being done to stimulate the economy through the diversification of industry. Although the ruggedness of the interior, its thin and poor quality soils, and the inaccessibility of urban markets tend to discourage agriculture as a commercial enterprise, some areas of arable and grazing lands are being developed and poultry farming and mink ranching encouraged. The Newfoundland Government has aided the launching of local industries producing such items as hardboard, gypsum, cement and textiles as a means of creating additional employment and serving the local market.

However, it is in the mining and forest industries that the greatest progress has been made and upon which a strengthened economy is being built—the immense iron ore deposits on Bell Island in Conception Bay and extending far out under the sea; the lead, zinc and copper mine at Buchans; the two great pulp and paper enterprises, one at Grand Falls near the north-east coast and the other—one of the largest and best equipped in the world—at Corner Brook on the west coast. These developments have provided wider employment opportunities and brought notable economic changes to the Island of Newfoundland in recent years but, looking to the future, it is in the Province's mainland wilderness of Labrador that the most spectacular progress may be expected. It is on the Labrador-Quebec border that the Knob Lake iron ore developments have taken place, an indication of the potentiality of this rugged, generally unknown and uninhabited area. Large Canadian, American and British mining and financial interests have signed agreements with the Newfoundland Government pertaining to the exploration and development of natural resources throughout the Province so that Newfoundland appears to be on the threshold of a new period of economic growth as mining and timber concessions are developed and hydro power resources exploited. The most extensive power possibility is the Hamilton River in Labrador which has a potential of 4,000,000 h.p. at Grand Falls and an additional 2,000,000 h.p. farther down the River.

Newfoundland, by reason of geography, topography and therefore economy, has a mode of life unique in Canada. Its people, born to an austere and vigorous existence, are scattered in thousands of isolated communities along the rugged coastline and their livelihood is obtained from three basic industries—fishing, forestry and mining.



Two large pulp and paper corporations control about one-third of the forest resources of the island. The mill at Corner Brook has a capacity of 1,000 tons of newsprint a day.



A new government-sponsored textile mill adds diversity to production and employment.



More than one-third of the iron ore produced in Canada in 1957 came from the Island of Newfoundland.



The Maritime Provinces

P. E. I.

N. S.

N. B.



ACROSS the Cabot Strait to the south of Newfoundland, the three Maritime Provinces of Nova Scotia, New Brunswick and Prince Edward Island comprise one of the most colourful regions of Canada in history and natural beauty. Except in the uniformly populated garden province of Prince Edward Island, the settled regions of this maritime area are along the sea coast or along navigable waterways—the urban settlements in Nova Scotia and New Brunswick having been established when water transport was the only means of communication. Much of central and northern New Brunswick, southwestern Nova Scotia as well as the higher plateaux of Cape Breton is still devoid of population. Thus, the mainland portion of the Maritimes offers a scenic paradise of contentment in the gently rolling landscapes, the beauty of the forests, the secluded streams and rich meadows, and the sparkling rivers and lakes unscarred by man.

Moreover, the 'toy continent' of Prince Edward Island presents a scene of unforgettable beauty as one approaches its shores. For here one finds a mosaic of terra-cotta soil, gently rolling terrain, narrow green woodlots, garden-like farms, high-roofed and gabled white houses and bulging red barns—all signifying a life of tranquillity and contentment, of thrift and orderly management, and a miniature personal democracy in which a people maintain intimate contact with their government. Indeed, the Canadian Confederation was almost born at the Charlottetown Conference (1864) in the Island's Provincial Building of Georgian architecture, where the Confederation Chamber today fittingly commemorates the historic occasion.

Colonized initially by Scottish tenants on landed estates administered until 1873 largely for the benefit of absentee English landlords among whom the Island was divided by the Board of Trade and Plantations in London (1767), this 'garden of the Gulf' is almost entirely under cultivation by the descendants of English, Scottish, Irish and United Empire Loyalist settlers. Their production includes high-grade potatoes, beef, bacon, fruit and poultry, augmented by silver fox farming and the harvest of the extensive coastal fishing grounds which embrace the famous Malpeque Bay oysters, lobsters, cod, herring and mackerel. Lacking minerals and appreciable timber resources, the Island's manufacturing industry is largely confined to processing the food products of the farms and the fisheries.

Across the Northumberland Strait lies Nova Scotia, historic homeland of the Acadians, especially in the vicinity of Minas Basin, Cobequid Bay and Chignecto Basin, where tidal marshlands formed the basis of their agricultural economy. Even though distinctly French settlements continue along the Digby-Yarmouth shore and in northwestern and southern Cape Breton, recently linked to the mainland by the Canso causeway, the English settlement of Nova Scotia began with the founding of Halifax (1749), the final capture of Louisburg (1758), the migration of New England colonists to such south shore centres as Yarmouth, Barrington, Port Mouton and Liverpool and to lands formerly occupied by the exiled Acadians. Although other early settlers located at Lunenburg (Germans), Sackville and Amherst (Yorkshiremen); Londonderry (Ulstermen), Gagetown and Miramichi (English), and

Prince Edward Island is well named "the garden province" with mile upon mile of attractive farms and deep coastal inlets.





Nova Scotia—the charm of the Old World, the lure of the sea and its occupations, the quietness of the lovely countryside . . . and the hum of industry.

Pictou, Antigonish and Cape Breton (Scottish Highlanders), a major development took place with the coming of some 20,000 United Empire Loyalists, at the close of the American Revolution, to previously established settlements and to the valley of the St. John River, to the north of the Bay of Fundy. Indeed, the influx was so great and the new communities so far removed from the capital at Halifax that a new province called New Brunswick was established in 1784, with its major settlements at Saint John and Fredericton—its present capital.

Subsequent settlement in Nova Scotia and New Brunswick has, in the main, been merely an expansion of the colonial communities, and industrial development continues to be based on agriculture, lumbering, fishing and mining. The doom of the famous wooden shipbuilding industry and the sailing vessel and the attendant export of ship timbers was signaled by the inauguration of Haligonian Samuel Cunard's



transatlantic steamship service in 1840. But the fisheries, a natural resource vital to the Maritime economy, are being revolutionized to maintain their competitive position as a major export and means of livelihood; the dory-schooner and the fishing nets are being replaced by large modern draggers equipped with mechanical aids and the latest processing facilities for frozen fish products.

Agriculture too has undergone a revolution in mechanization whether in cultivation, harvesting or storage of field and root crops or the raising of fruits of a wide variety—led by the apple production of the famous Annapolis-Cornwallis Valley—or dairy farming and livestock raising, potato growing, chick hatchery farming, and fur farming. A mere listing indicates the degree

New Brunswick's dense spruce forests, which cover more than four-fifths of the area of the Province, are its greatest asset.



of diversification of this vital primary industry in the Maritimes which has a patchy uneven distribution with small nuclear areas of intensive cultivation surrounded by areas of sparse occupancy.

In mineral production Nova Scotia (particularly Cape Breton Island) has long been prominent, with coal leading such metals and industrial minerals as lead, zinc, copper, gold, manganese, gypsum, limestone and fluorspar. Nova Scotia accounted for 5,800,000 of the 14,900,000 tons of coal mined in the country. Mining activity is concentrated in the Cape Breton fields in the vicinity of Sydney, Glace Bay, New Waterford and in Inverness, and on the mainland at the Pictou and Cumberland coalfields such as Stellarton and Springhill.

Closely linked with coal mining in Cape Breton is the iron and steel industry centred in Sydney. Indeed, the undertakings of that industry—whether mining, steel production or fabrication—constitute the major Atlantic Province industrial enterprise based on the iron ore mines of Newfoundland and the Sydney and Stellarton operations in Nova Scotia.

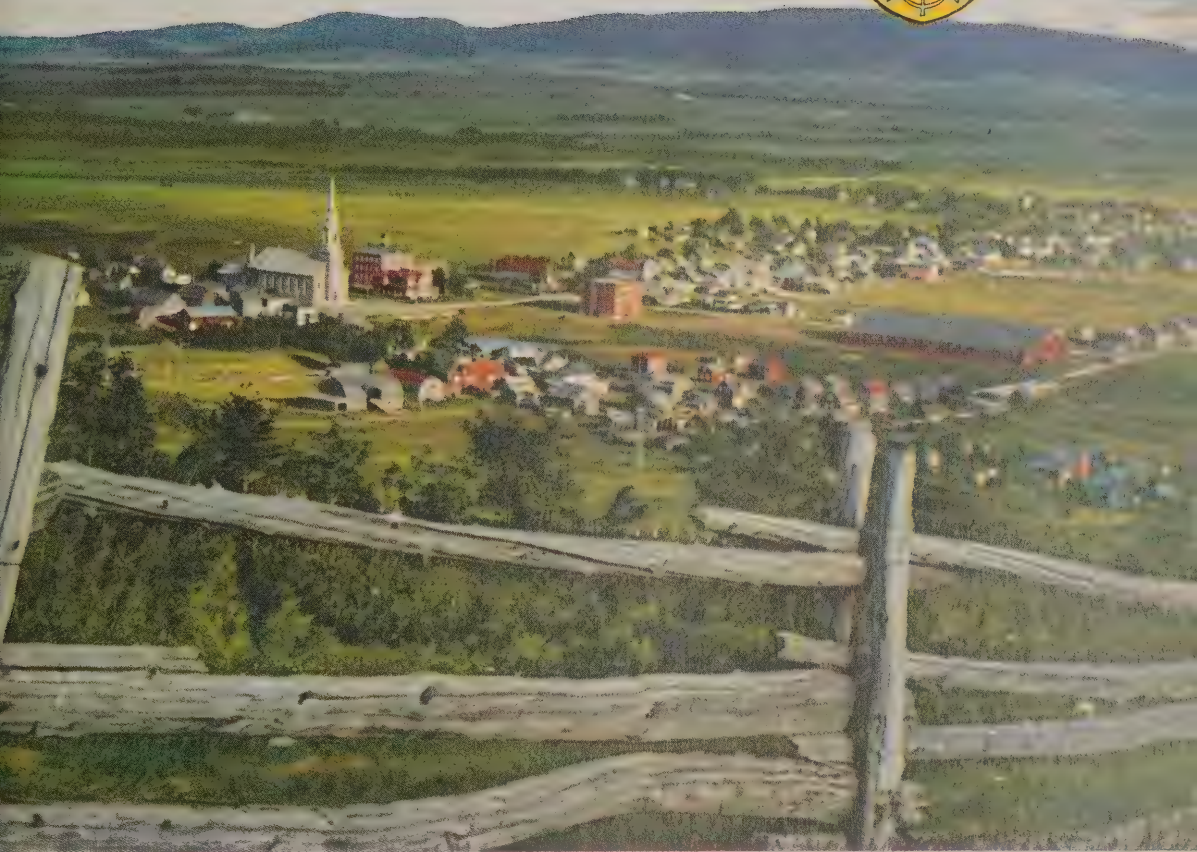
In New Brunswick, wood and pulp and paper production are well to the fore, followed by fish curing and packing and the processing of agricultural products. But the Province looks forward to a greatly improved industrial economy with the development of zinc-lead-pyrite deposits in the Bathurst area, the completion of the Beechwood power project on the St. John River, the projected establishment of a ferro-manganese ingot iron smelter near Woodstock, and the application of federal financial assistance to all the Atlantic Provinces for the specific purposes of constructing steam power plants and transmission systems and providing subventions on Maritime coal used in the production of electricity for industrial purposes in Nova Scotia and New Brunswick.

The industrial and commercial development of the Maritime region has since the middle of the 19th Century lagged behind the progress of the Canadian provinces to the west, perhaps largely because of the decline in its share of the triangular trade of the North Atlantic with the West Indies, the New England States, and the British Isles and its sense of geographical isolation from western members of the Canadian Confederation. However, the future of this region would appear to be brightening with the current increase in resource development and Federal Government financial assistance and the potential launching of an immediate study of the entire Maritime economy, including generous Federal Government assistance for capital projects.



Covered bridges span the twisting and turning streams of New Brunswick—reminders of more leisurely days.

Quebec



CANADA'S largest province in area and second in population and in the economic field, Quebec comprises three distinct physiographical regions—some 500,000 sq. miles of Canadian Shield lying to the east of Hudson and James Bays and including the plateau-like Laurentian area north of the St. Lawrence River; the St. Lawrence Lowlands with their close-settled communities clinging to both shores of the River; and the Appalachian Highlands with their smooth plateaux and deep valleys in the Eastern Townships and their highest summits in the Shickshock Mountains of the Gaspé peninsula.

Quebec is a land of vivid contrast and historic memories, preserving much of the atmosphere of Old France in a New World of vigorous industrial activity and change. Narrow ribbons of settlement, farmlands, villages and towns, cling with tenacity as in centuries past to the banks of the St. Lawrence, and the slender green fields, defying further subdivision, drive the landless sons of Quebec farmers in increasing numbers to industrial centres or to colonization of the frontiers. The quaint and stolid peasant society of old



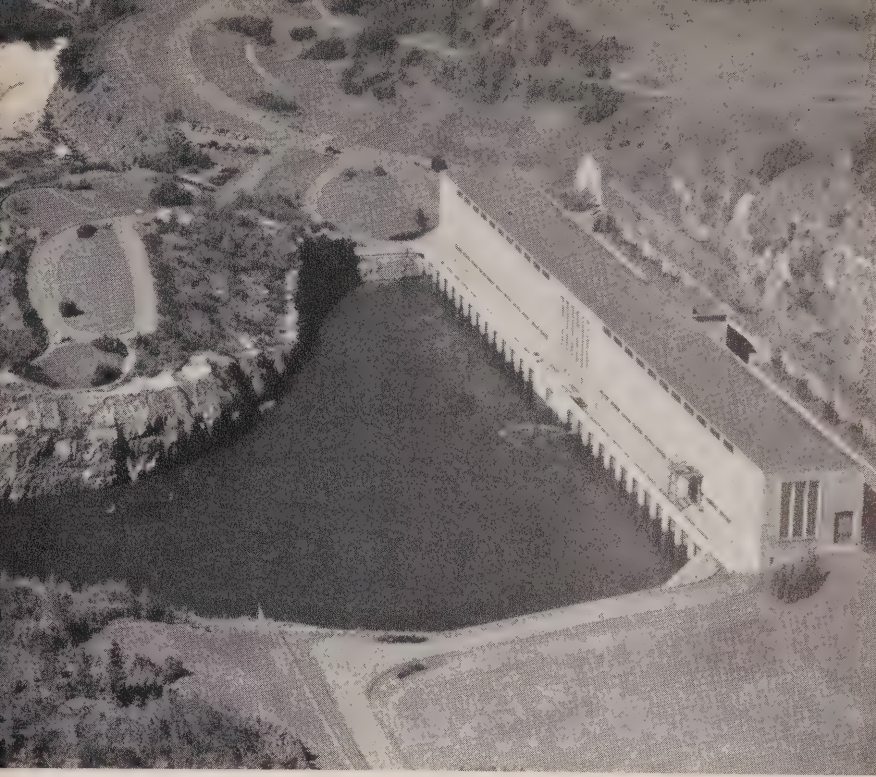
The broad St. Lawrence, one of the world's great waterways, was Quebec's greatest asset in the early days of its history. Along it were established the farms, the towns and then the industries. It was the trade of the river that built Montreal, Canada's largest city. Even now, the greatest portion of Quebec's population lives within a few miles of the river.

remains only in isolated pockets as Quebec's industrial revolution threatens its deeply ingrained habits of life and thought. Today, Quebec's population is two-thirds urban and one-third rural, the power and influence of farms and villages are fast giving way to the industrial centres, and their populations undergoing many changes in social behaviour.

Although Quebec agriculture is now outranked by manufacturing and construction, it holds third place behind Ontario and Saskatchewan in farm cash income, derived from a wide range of agricultural products. Almost wholly individually owned and operated, Quebec's 122,000 farms cover an agricultural area of 15,900,000 acres (1956), suffering a decline since 1951 of about 12,000 farms and 900,000 acres as a result of the intrusion of industry and the elimination of marginal lands from production. Nevertheless, a great impact has been made upon the younger generation of farmers by technical training in field and animal husbandry, horticulture and rural economy, by the growth of agricultural societies and marketing co-operatives, and by the modernization of equipment through provincial loans. Such developments are increasing output and raising the standard of living.

The City of Quebec, strategically founded by Champlain (1608) where the river gateway narrows between Cape Diamond and the heights of Levis, stands unique among the cities of Canada. Rich in old European atmosphere, it symbolizes the preservation of French Canadian cultural life which is a

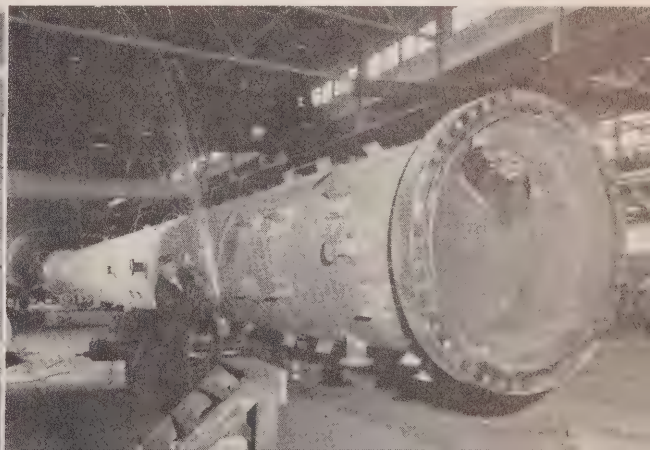




Today, Quebec's most important resource is perhaps power, for on it depends the development of the Province's great forest and mineral wealth and its industrial life generally. Quebec possesses 32 p.c. of the potential power resources of the country.

distinguishing element in the Canadian national character. Here, Champlain, Frontenac, Laval and Montcalm gallantly served New France, and here in this stronghold of the French Canadian race the Fathers of Confederation only ninety-four years ago fashioned in a spirit of co-operation, understanding and compromise the federal constitution of this nation of Canada. Although Quebec is an important industrial centre with a far-reaching commercial hinterland, its major roles are political, religious and intellectual, being the capital of the Province, the seat of the Roman Catholic Primate of Canada, and the site of Laval University.

Montreal, on the other hand, symbolizes the industrial revolution now sweeping through the Province. Founded by Maisonneuve in 1642 at the foot of Mount Royal and once a famed fur centre, Montreal is now Canada's metropolis with a 1956 city population of 1,109,439 and a metropolitan area census of 1,620,758. Laced to the shore by many bridges, the Island of Montreal constitutes a major industrial, commercial and financial centre, with extensive harbour installations and unequalled transportation facilities of all kinds. Although the diversity of Montreal's manufactures, whether heavy industry, railway and other transport equipment, the products of iron



and steel, paper, wood, non-ferrous metals, petroleum, foods and beverages, electrical apparatus, clothing or textiles, is unmatched elsewhere in the Province, many other cities and towns of Quebec are characterized by one or more such industries. Among these in the lowlands are Sorel (ship-building and ilmenite smelting), Longueuil (aircraft), St. Hyacinthe (textiles), Valleyfield (cottons), Joliette (tobacco), Three Rivers (newsprint and textiles); in the Eastern Townships, Sherbrooke, Granby, Magog, Farnham (textile towns), Windsor Mills (pulp and paper) and Thetford Mines (the world's major asbestos mining centre).

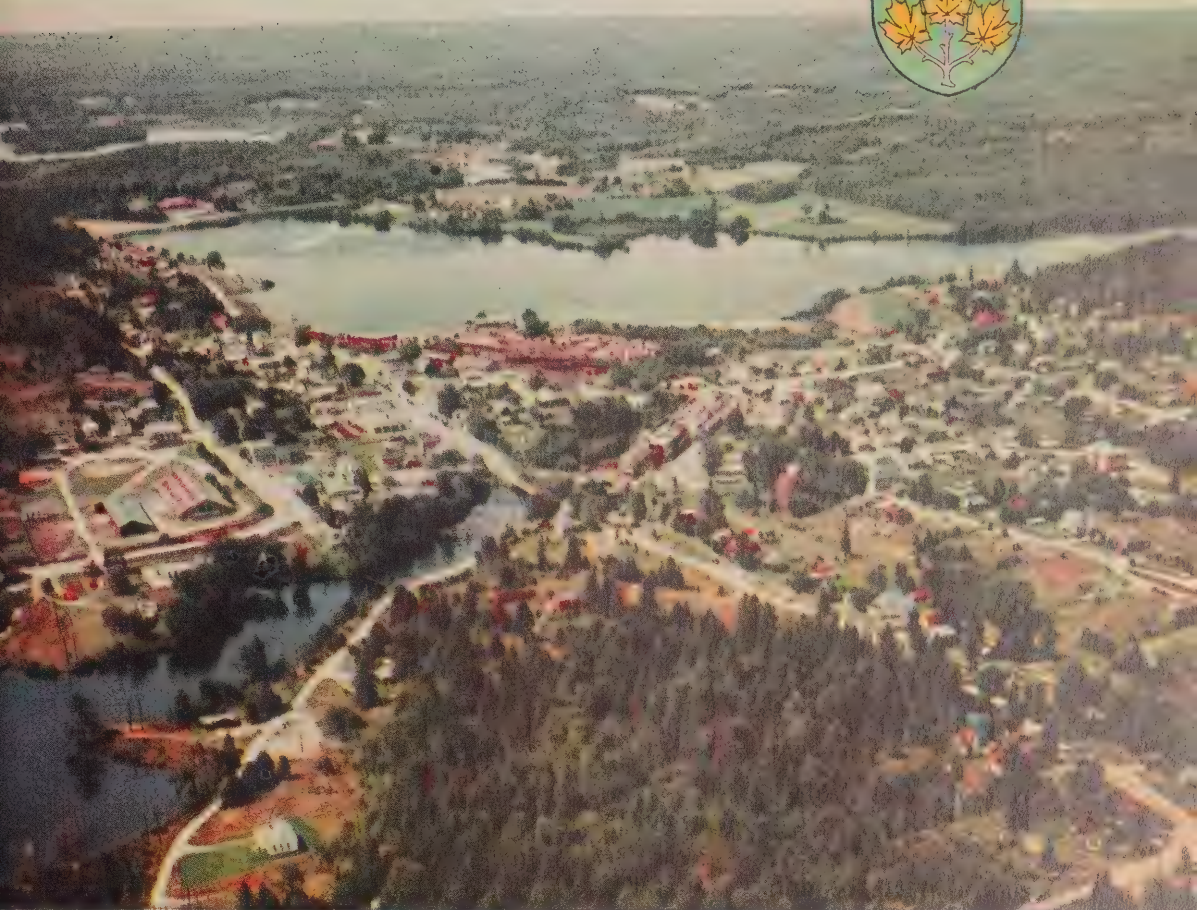
Yet it is in Quebec's vast pulp and paper industry, its abundant low-cost hydro-electric power, and its immense mineral resources, that one finds the basis for the current expansion and the potential of a remarkable industrial future. Place-names such as Arvida, Beauharnois, Isle Maligne, Shawinigan Falls, Bersimis, and Baie Comeau spell cheap hydro-electric power for aluminum and other smelting as well as the pulp and paper industry, while La Tuque, Grand'Mère, Lachute and St. Jérôme are known for their paper, textiles and chemicals; and Hull, Gatineau, Buckingham and Masson almost exclusively for pulp and paper.

Although second only to Ontario since the 1920's in the production of such metals as gold, copper, silver, zinc and lead, principally from the Noranda-Rouyn, Malartic, Val d'Or and Temiscamingue regions, new areas of Quebec's largely unexplored hinterland have recently been opened to mineral development. Significant among these are the rich copper mining areas of Chibougamau (west of Lake St. John) and of Murdochville (in the Gaspé), the vast iron ore deposits of the remote Knob Lake-Schefferville region on the Quebec-Labrador border, and several other large iron ore projects in the Mount Wright-Mount Reed and Wabush Lake regions as well as the Ungava Bay area at the northern end of the richly mineralized 'Labrador Trough'. Hence, the lure of immense mineral resources, in close association with abundant forests and water power, all accessible to St. Lawrence shipping, ensures northern Quebec a prominent place in Canada's industrial future.



The people of Quebec have added much to the folklore, the arts and the crafts of Canada. Their contributions reveal their innate feeling for the land and the family.

Ontario



ONTARIO, the wealthiest and largest in area and population of the predominantly English-speaking provinces, is located in the very centre of Canada. Its irregularly shaped boundaries embrace wide varieties of terrain, climate and vegetation, extending from the lush lowlands along Lakes Ontario and Erie northward through the rugged, heavily forested, waterpowered and mineralized Canadian Shield to Hudson and James Bays. It encompasses north-south and east-west distances, each approximating 1,000 miles.

The general pattern of Ontario settlement was laid during the pre-Confederation period when the Province was known as Upper Canada. By the end of 1784 some 10,000 United Empire Loyalists had settled in the newly surveyed townships in the Niagara Peninsula and along the Upper St. Lawrence and the Bay of Quinte. Close upon the Loyalists and post-Loyalists came German folk from Pennsylvania and Europe, Americans from the eastern and mid-western States, English, Scottish and Irish immigrants

in a steady stream, who carved new farming communities and towns out of some 50,000 sq. miles of forest lands extending from Lakes Ontario and Erie to Lake Huron and Georgian Bay. Many of these colonial settlements were established as lake or river ports—Kingston, Belleville, Cobourg, Toronto and Hamilton on Lake Ontario, Port Dover and Port Stanley on Lake Erie, and Sarnia, Goderich, Owen Sound and Collingwood on Lake Huron and Georgian Bay. From the shores of Lake Ontario and Lake Erie the population fanned out across the peninsula and from the St. Lawrence River through the fertile lands of the Ottawa River valley. The small waterway extending northward from the St. Lawrence to the Ottawa River by way of the Rideau Lakes became of strategic military importance and it was the little settlement of Bytown, originating as a camp for canal construction workers and located high on a promontory at the junction of the Rideau and Ottawa Rivers overlooking the turbulent Chaudiere Falls and the first ridge of the Laurentian hills, that became, on New Year's Eve, 1857, the Capital of Canada. Its name had been changed to Ottawa in 1855.

During the ninety years since Confederation, the economy of the Province has broadened from one based on agriculture, lumbering and pioneer craftsmanship to one embracing the most varied technological advances of modern industrialism. The greatest aggregations of people are now located around the western end of Lake Ontario (including Toronto, Hamilton, the Niagara Peninsula and the valley of the Grand River), in the vicinity of Windsor in the extreme southwest, and in the Ottawa area in the extreme northeast. However, the vast untapped and largely uninhabited area of northwestern Ontario is fast proving itself an immense asset as it surrenders its treasured resources to the efforts of enterprising promoters, geologists, metallurgists, engineers, foresters and their associated mining, lumbering, pulp and paper, and hydro-electric power corporations. It is here that the Province mines most of its gold, nickel, copper, silver, platinum, cobalt, iron and uranium. Notable gold fields are centred around Timmins, Kirkland Lake, Larder Lake, Little Long Lac and Red Lake, while the Sudbury area has long been famous as the source of most of the world's nickel and most of Ontario's copper and platinum. The Timiskaming area provides copper, silver, and cobalt, and Manitouwadge, north of Lake Superior, has recently become an important producer of copper and zinc. The Helen Mine in the Michipicoten area and especially Steep Rock in the Rainy River district west of Lake Superior are Ontario's major producers of high-grade iron ore. However, eclipsing all other mining operations in Ontario is the 1953 discovery and present development in the Blind River district of perhaps the world's largest uranium ore reserves.

The close association of abundant forest and mineral resources with cheap hydro-electric power and transportation facilities has resulted in the establishment in northern Ontario of thriving manufacturing industries engaged in the production of pulp and paper, sawmilling, metal smelting and refining, and transportation equipment—the most striking examples being the iron and steel industry of Sault Ste. Marie, the immense iron-ore and towering grain terminal facilities of the Lakehead cities of Fort William and Port Arthur, and the nickel and copper refineries at Sudbury. While the delivery of western gas by the 2,150-mile Trans-Canada pipeline will contribute to the industrial development of northern Ontario communities, it will also

Ontario is a province of many physical and climatic contrasts. Across the north and west lies a vast rugged area of rocks, forests, lakes and muskeg, now spot invaded by great modern pulp and paper and mining communities. South and eastward the land changes until it becomes almost semi-tropical in the Niagara Peninsula. Here are the quiet efficient farms that make this the most intensively cultivated region of Canada. Here also is the most densely peopled area of the country and one of the most highly industrialized regions of the world.



Asbestos plant at Matheson.



Farm at Port Perry.

Lakefront east of Toronto

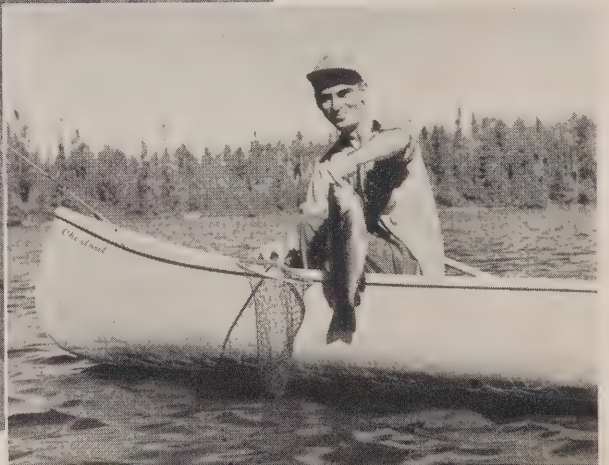


provide a new source of energy and fuel to the heavily industrialized southern portion of the Province. Here, in the older portion of Ontario, available power, excellent transportation, and the sustaining influence of a large home market have produced a heavy concentration of manufactures of every kind of consumer goods.

Yet some of the most important industries are highly localized. Hamilton has its primary iron and steel industry; Windsor and Oshawa their automobile plants; Sarnia its 'chemical valley' of huge oil refineries, synthetic rubber, consumer chemicals, and pipeline terminals; the Georgian Bay ports of Midland and Collingwood their shipyards, flour mills and their tourist and vacation facilities. On the other hand, Toronto, Canada's second largest city and manufacturing and financial centre, with its harbour and converging railways, is synonymous with industrial diversification. In addition, it is the provincial capital, and its university and colleges, research laboratories, museum, art gallery and auditoria enhance the city's important role in the cultural life of the nation.

Nature and man have combined to build in this Province one of the world's major industrial complexes, and the process continues as the St. Lawrence Seaway, ever-expanding factory and housing subdivisions and super highways inundate and overrun the old towns, the farmlands and orchards. Yet Ontario is rich in tradition and each centre proudly retains its link with the past as it advances with modern progress. As the cities are left behind, the beautiful and ordered farmlands appear and the highways

roll off through the great rugged north-land where almost every turn reveals a shining rockbound tree-edged lake and the top of every hill an unforgettable vista. Here is one of Canada's most popular vacation-lands, particularly for the camper and the fisherman.



The Prairie Provinces



WESTWARD beyond the Lakehead cities and the neighbouring Thunder Bay-Rainy River-Kenora districts of western Ontario, where the edge of the Canadian Shield veers northwestward and gives way to the marine-sedimented Great Plains, Canada's three Prairie Provinces—Manitoba, Saskatchewan and Alberta—stretch 1,000 miles to the crest of the Rocky Mountains. Extending from the 49th to the 60th parallel of north latitude, they embrace about 20 p.c. of the country's total area.

For two hundred years prior to the acquisition of this vast northwestern territory by Canada in 1869-70, the fur trade was almost its only economic activity and the rivalry between the Hudson's Bay Company and the Montreal-based Nor'Westers (1784-1821) was the principal reason for the expansive network of forts and trading posts that were established at strategic points along such interior waterways as the Red and Assiniboine, the Churchill and the Nelson, the two arms of the Saskatchewan and the northern lakes. Thus the exploring fur traders and voyageurs in their canoes, York boats and Red River carts pioneered the river and overland routes of the prairies,

chose the future sites of many of its most flourishing communities, and anchored them to the Canadian East against the southward pull of advancing American settlement, until the Confederation Fathers achieved their design of a Canadian nation from the Atlantic to the Pacific.

Following the birth of the 'postage stamp province' of Manitoba in 1870, the old French-English-métis settlement at the junction of the Red and Assiniboine Rivers grew steadily in familiar river-woodlot fashion, augmented in turn by group colonies of French, Mennonite and Icelandic and by a steady movement of settlers from Ontario and the British Isles into the open prairies. Between 1876 and 1881 (the date of Manitoba's first major boundary extension), some 40,000 immigrants were attracted to the new frontier whose prairie land was purported to hold neither stone nor stump to check the plough. The agricultural era of the great West was at hand with its rich black wheatlands, its mechanical seed-drill, sulky and gang ploughs, steam thresher, barbed wire fencing and its Red Fife hard spring wheat, while the clusters of red towering elevators at six-to-eight-mile intervals along railway tracks soon became the characteristic landmarks of prairie settlement.

One of the major migrations of history ushered a 'Great Boom' into Manitoba and the Northwest Territories during the years 1897-1914. In an age of railway building, commencing with the main line of the Canadian Pacific Railway across the broad prairies in the early 1880's, an energetic immigration policy based upon a free-homestead system, a high flow of investment capital, and a seemingly insatiable world demand for Manitoba hard spring wheat, brought to the last of the great agriculture frontiers a polyglot mosaic of people in such numbers as to justify the creation in 1905 of the two Prairie Provinces of Saskatchewan and Alberta. During the following couple of decades two other transprairie lines (the Canadian Northern and the Grand Trunk Pacific which in 1918 and 1920 were amalgamated with the Canadian National Railways system) and an increasing network of branch lines facilitated the settlement of the more northerly parklands as well as any open grasslands still awaiting the plough.

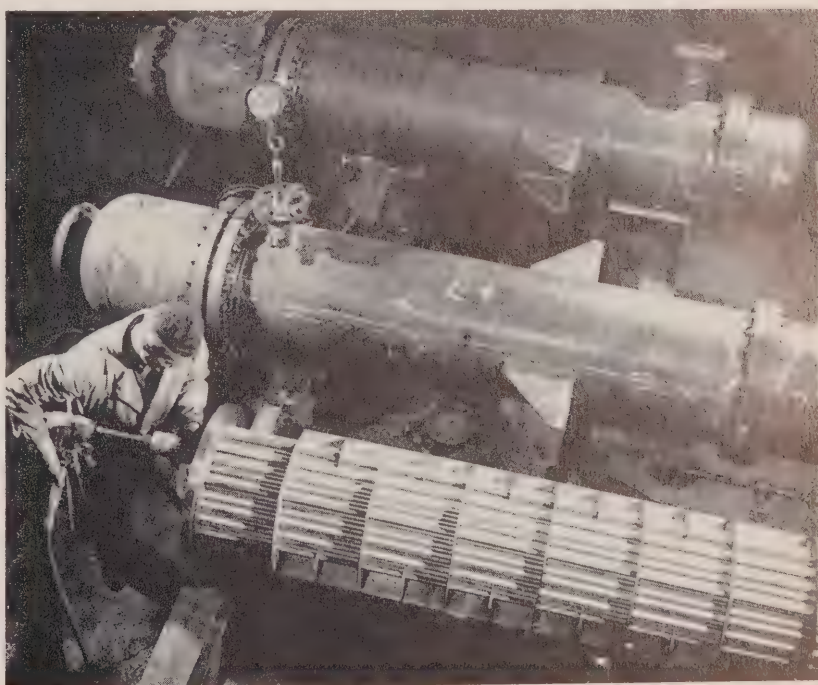
While wheat remains 'king' on the Prairies, particularly in Saskatchewan, other agricultural production—including coarse grains, hogs, beef, dairy products, eggs and poultry—has also become significant, with ranching prevailing throughout the drier grazing areas of southwestern Saskatchewan and southern Alberta. Moreover, agricultural operations are rapidly becoming highly mechanized with the adoption of grain combines and other equipment of modern technology; the small farm unit is yielding place to large-scale mechanized farming in an endeavour to lower unit costs of operation and thereby assist the owner-operator to meet intense competition in the world markets, increase his income and raise his living standards.

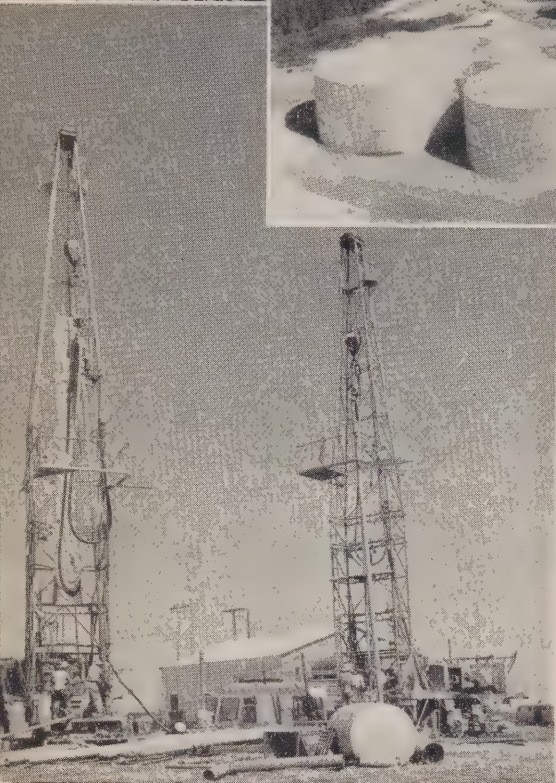
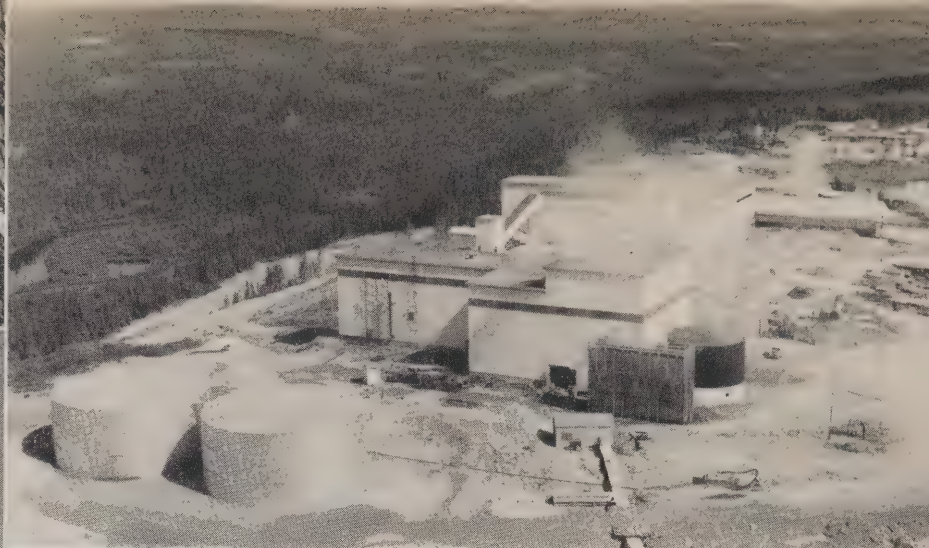
But the postwar years have also witnessed revolutionary developments in the oil and gas and base metal industries which have greatly broadened and strengthened not only the prairie economy but that of Canada as a whole. Despite the prominence of the Turner Valley oil field as Canada's major source of crude petroleum after 1914, the discovery of a rich new field at Leduc, Alberta, in 1947 and the recent rapid expansion of exploration and production in Alberta, Saskatchewan and southwestern Manitoba have, in the ten years 1947-56, increased Canada's crude oil production 2,200 p.c. and its percentage supply of the domestic consumption from 10 to more than



Winnipeg—Capital of Manitoba, the keystone of the transcontinental arch of Canadian provinces—is a potent force in the nation's affairs as the gateway to the West, the hub of east-west and north-south rail, road and air transportation in the very centre of the Continent. Within this city and its environs live one-third of Manitoba's rich mosaic of peoples. As the earliest seat of prairie civilization, it grew up close to the earth, to the harvest and to homely things, a characteristic it still retains. Teeming with enterprise and abhorring racial discrimination, its tolerance and warm-hearted hospitality are as broad as its Portage Avenue and its pioneering spirit as venturesome as the fur traders and voyageurs of the old Northwest.

In Manitoba, agriculture and industry are full partners in a well-balanced economy. Diversity of production, on which the progress of the Province depends, is largely the result of a planned development program conducted by provincial government and business leaders.





Saskatchewan—Canada's bread-basket province—has developed a new economy. Oil, natural gas and potash now highlight the picture in the southern half of the Province and uranium in the north. The new era of industrialization is reflected in the growth of non-agricultural industries.

▲ *Lorado, a third uranium mill in Saskatchewan's Beaverlodge field, started production in mid-1957. This mill, with an eventual daily capacity of about 700 tons, handles ore from five uranium properties.*

◀ *Saskatchewan's vast potash resources are the only known occurrences in Canada, and their development is forming a new primary industry with a great potential. Potash is especially valuable as a fertilizer and is important in the production of glass, matches, explosives, soap and high-octane gasoline.*

65. While mechanized prairie agriculture has provided a ready market for the expanding oil industry, the construction of two pipelines westward to Vancouver and eastward to Sarnia and Toronto have resulted in prairie crude petroleum capturing virtually the entire market in all provinces west of Quebec. Moreover, an estimated proved reserve of 24 trillion cu. feet of western natural gas is being tapped by a pipeline linking the Peace River district to the populous Pacific southwest, while the construction of the 2,150-mile pipeline from central Alberta eastward to Toronto and Montreal is far advanced.

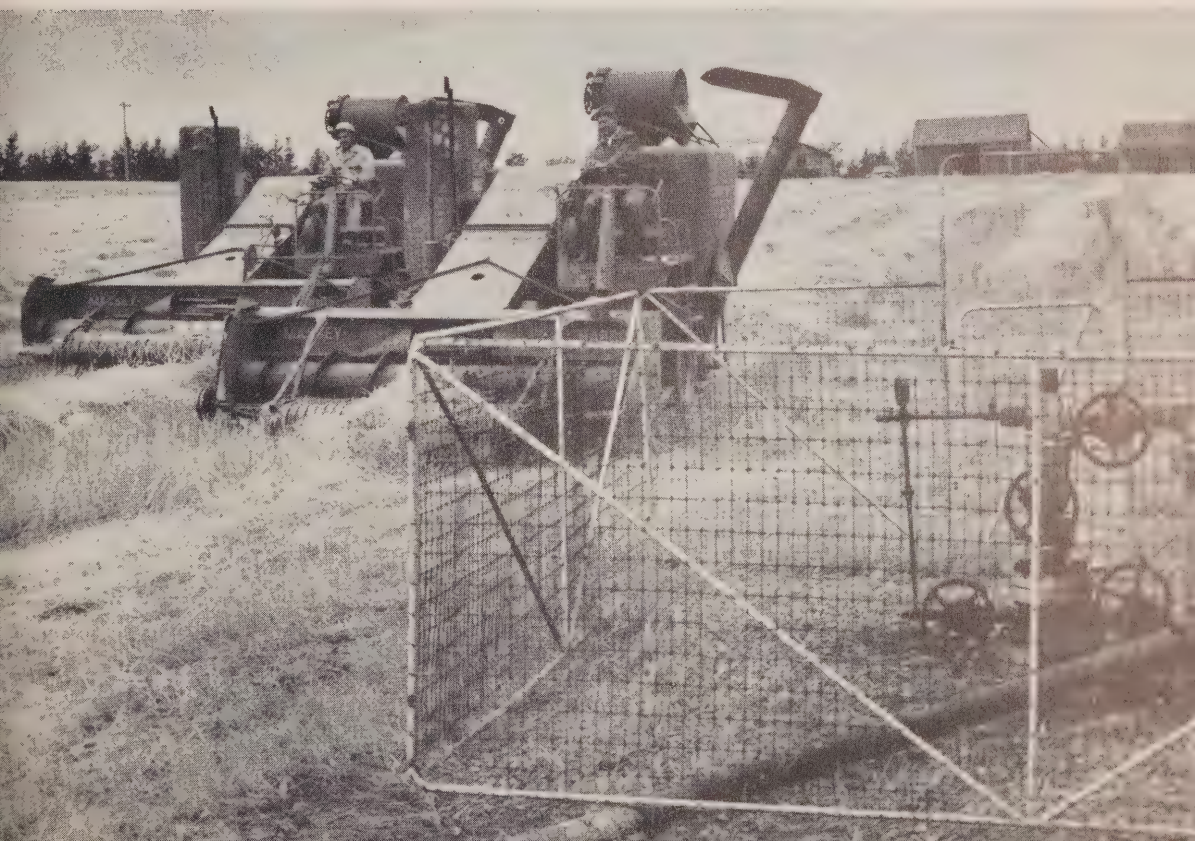
The current diversification of the economic resources of the prairies extends also to the metal mining industry and a series of new raw-material-using industries, highlighted in Manitoba by base metals and gold at Flin Flon on the Manitoba-Saskatchewan border, the new Mystery-Moak Lake nickel project 400 miles north of Winnipeg, and the smaller Lynn Lake nickel and copper development; in Saskatchewan by large-scale uranium production at Beaverlodge and Uranium City in the north and the development of a potash industry based on immense deposits in the south; and in Alberta by petrochemical plants at Edmonton, a fertilizer plant at Medicine Hat and the first

prairie pulp mill at Hinton—each using natural gas as raw material or fuel. Moreover, oil refining is now carried on in all major urban centres throughout the prairies to provide vital sources of fuel for agriculture and an increasing range of manufacturing and commercial enterprises.

While agriculture still dominates the economy of Saskatchewan, its relative importance with respect to net value of production is showing a steady decline in Manitoba and Alberta, reflecting the increasing importance of manufacturing and petroleum resource development. Even in Saskatchewan, however, petroleum products lead in manufactures, as they do in Alberta, followed by such long-established prairie industries as slaughtering and meat packing, flour milling, butter and cheese, foods, sawmilling, brewing, clothing and railway rolling-stock (in Manitoba), and many new products of modern industrialism in the cities of the plains.

For the prairies have their thriving urban centres as well as their vast rural distances, their endless patchwork of rectangular fields in crop, their farmyards and village elevators, their enormous milages of railways and roads and telegraph and telephone poles fading afar in the crimson wash of sunset, their co-operative establishments, and their unbounded optimism and enterprise. There is Winnipeg, the 'Gateway to the West', midway across the Continent at the site of old Fort Garry, the hub of rail, road and air transportation and major distribution centre for the prairies; Regina, the

The harvester and the oil well head—symbols of Alberta's almost unrivalled prosperity. Alberta is traditionally an agricultural province but its recent pattern of progress has been highlighted by the discovery and development of gas and oil resources and by the subsequent establishment of industrial giants . . . pipelines carrying the lifeblood of industry across the continent . . . petrochemical plants performing miracles of 20th Century science . . . metal refineries made economically feasible through low-cost processing. Alberta moves rapidly along on the strength of its admirably mixed economy.



'Queen City', entirely man-made capital of Saskatchewan; the provincial university city of Saskatoon on the banks of the South Saskatchewan; Calgary, the 'Sunshine City' of the Foothills and the warm chinooks; and Edmonton, the fast-growing capital city of Alberta and 'Oil Capital of Canada' as well as the 'Gateway' to the Canadian North at the aerial crossroads of global transportation. The extensive prospecting, mining, manufacturing, construction and transportation developments currently taking place in the Prairie Provinces, traditionally a major bread-basket of the world, and the realization of enormous resource potentialities in their vast northern stretches practically still untapped, are transforming and strengthening the economy of the West, broadening the manufacturing and distribution services of its urban centres, and providing assurance to the Prairie Provinces of a bright and prosperous future.



The magnificent splendour of the Rocky Mountains in Alberta, the pleasant climate and the variety of recreational facilities provided are a perpetual attraction to visitors from far and wide. Economically, tourism has become tremendously valuable to the Province and ranks as the third most important industry.



British Columbia



BYOND the broad Prairies and the crest of the Rockies, traversed by three noted passes—Yellowhead, Kicking Horse and Crowsnest—lies Canada's third-largest Province of British Columbia, facing westward to the Pacific. It is an area of exceedingly diversified topography and landscape, a land convulsed by nature into seven or eight main compartments and countless separated pockets, a land of overpowering mountain ranges, of rushing rivers and deep canyons, of green valleys and broad plateaux, a land lavish in dimensions, in beauty and in potential wealth.

The earliest records of British Columbia's colourful history pre-dates by some two centuries Queen Victoria's creation of the Crown Colony of British Columbia in 1858 out of mainland New Caledonia, to meet the in-rushing miners and settlers who followed the discovery of gold in the sand bars of the Fraser River near Lytton. Numerous place-names along the coast bear testimony of the early contest of Spanish conquistadores and of Russian and British explorers and fur traders for control of the Pacific Northwest. This struggle for control ended with the Nootka Convention of 1790 which terminated Spanish activity in the region, the Anglo-Russian Convention of 1825



BRITISH COLUMBIA IN 1958 CELEBRATES A CENTURY OF LIFE — a century begun in drama, awakened by the fanatic cry of "gold". In 1858, to a small fur-trading post on the Pacific Coast just become the Colony of British Columbia — a pocket of humanity in a formidable wilderness separated from the growing Canada

of the east by great snow-capped mountains, by dense forested slopes and by rushing rivers defying navigation — came thousands of fortune seekers to answer that cry. When the gold fever waned in a few short years, these people became the backbone of settlement and British Columbia set its feet firmly and confidently on the road toward 1958. The Colony joined Canada in 1871 but it was not until 1885 when the first passenger train puffed into the western terminus that British Columbia, after years of indecision and crises, became truly the Pacific anchor of the Canadian nation.



The road ahead was smoother. The spectacular mountain mass began to yield up its mineral treasures, fishing and agriculture flourished, but it was lumber that took the mantle of king and retained it. Vancouver became the colossus of the coast, a great seaport, a booming manufacturing and commercial city of beautiful buildings and homes, the cultural centre of the West. Other vigorous towns and cities now flourish on the sites of early settlement — Victoria, Kamloops, Prince George, Prince Rupert, Nanaimo, Nelson, New Westminster and even Kitimat. The Province has indeed prospered in its hundred years — but the story has just begun.

British Columbia — a toast to its past
and a toast to its future.



which established the boundary of Russian America in Alaska (purchased by the United States in 1866), and the Oregon Treaty of 1846 which extended the 49th parallel of north latitude as the southern boundary of British territory from the Rockies to the Pacific. Captain James Cook had searched the rugged shoreline for the Northwest Passage in 1778; Captain George Vancouver had sailed around the Island now bearing his name in 1792. Dauntless explorers and fur traders had pioneered the interior, and built posts that ultimately became thriving towns and cities. Alexander Mackenzie had reached the Pacific near Bella Coola in 1793; David Thompson had explored the southern interior and given his name to the Thompson River between 1800 and 1811; Simon Fraser had descended the Fraser by canoe in 1808. The Hudson's Bay Company had, in the face of advancing American settlement into the Oregon country, moved its western headquarters from the Columbia to a new post at Fort Victoria (1843) which became the capital of the newly proclaimed Crown Colony of Vancouver Island in 1849. The union of the colony of Vancouver Island with the mainland colony in 1866 and Canada's promise of a transcontinental railway, linking British Columbia with the East, culminated in the entry of the new Province into Confederation in July 1871.

Thus, British Columbia and its provincial capital of Victoria at the southern tip of Vancouver Island, site of Governor Douglas's fort of 1843, resisted the northern advance of American 'Manifest Destiny', gave Canada its western seacoast, and in the doing tied with bands of steel the disjointed colonies into a nation extending from the Atlantic to the Pacific.

While Victoria is renowned for its Victorian quaintness, eccentricity, charm, and its gardens of unmatched beauty, the city and harbour of Vancouver, Canada's 'Pacific Gateway' and western terminal of two transcontinental railways, characterizes most fully the industrial and commercial life of British Columbia in this its centennial year. For strategic Vancouver, linking land and sea communications, maintains innumerable warehouses and wholesale establishments and is the major centre for sawmilling, fish processing, petroleum refining, metal working, and numerous other manufactures. Douglas fir, western hemlock and red cedar from Vancouver Island or far up the coast or from the Queen Charlottes, paper from Powell River or Ocean Falls, salmon and halibut from coastal and off-shore waters, copper from Britannia and Copper Mountain, lead, zinc and silver from the famous Sullivan Mine at Kimberley, gold from the Bridge River area, aluminum from Kitimat, petroleum and natural gas from Alberta and the Peace River district of the northeast, fresh fruits and vegetables from the prosperous Okanagan Valley, and even grain from the western prairies pour into Vancouver by coastal ship or rail or pipeline for processing, sale or transshipment.

Possessing almost every known mineral, the world's greatest timber resources, immense energy resources of water power and natural gas, and a vast almost untapped northern interior whose successful Kitimat-Kemano power and aluminum project, natural gas pipeline from the Peace River district, and extension of the Pacific Great Eastern Railway from Vancouver north to Dawson Creek and Fort St. John are even now inspiring proposals for other significant developments, British Columbia's new era of unparalleled growth seems firmly based and its position as Canada's third-ranking province in industrial importance secure.

The Territories



ABOUT 40 p.c. of Canada's total area lies in its northland beyond the boundary of the provinces and extending through its Arctic Archipelago to the North Pole.

This vast area of over 1,500,000 sq. miles is known for administrative purposes as the Yukon Territory and the Northwest Territories. For centuries it was left to the audacious explorers searching for a passage to the treasures of the Orient, to the fur traders, to the missionaries at the trading posts, and to a few thousand nomadic Indians and Eskimos, while the Canadian people and their Government were devoting their energies to the building of a nation from the Atlantic to the Pacific, to the settlement of the prairies, and to the exploration and development of the resources of the more southerly areas. Then, with the two world wars, came increasing consciousness of the Canadian North as the aerial crossroads of the world, the construction of the Alaska Highway, the airfields of the Northwest Staging Route, the oil



The future of Canada's North may well lie in the development of mineral resources. The uranium mine at Port Radium in the Northwest Territories was the first producer of radioactive ores in Canada.



Fur-bearing animals, the mainstay of the northland in the past, are still of great importance. Arctic fox is found beyond the tree-line, but the most valuable furbearers remain in the forested area of the southern and western portions of the Territories.

facilities at Norman Wells, and radio and meteorological stations. And now, in a period of unprecedented Canadian industrial expansion, a new mineral rich North is emerging.

Geological indications are that these vast northern territories possess potential mineral wealth that may eclipse in variety and abundance all other Canadian sources. There is a thriving gold-mining industry centred in the Dawson and Yellowknife areas, and Port Radium on the eastern shore of Great Bear Lake has been a leading source of uranium since 1933, but potentially of far greater importance are the vast, rich base-metal deposits at Pine Point on the south shore of Great Slave Lake. Moreover, nickel is being produced at Rankin Inlet on the western shore of Hudson Bay, and there are indications of iron ore in southern Baffin Island and of oil on Ellesmere Island.

These mining and other primary resources may well, under scientific endeavour and adequate transportation facilities, sustain a much larger population than the present 32,000 inhabitants—Eskimo, Indian and white. The trapping industry has been seriously affected by a depressed market,

but mining and construction throughout the northwest can be the trappers' salvation. Good merchantable timber in the river valleys, local fishing in the rivers and lakes and commercial fisheries in Great Slave Lake, and 3,000,000 acres of potential arable land will respond to scientific experimentation and management and in due course reduce the dependence of the settlements on outside sources for lumber and agricultural products.

In addition to the traditional means of transportation—the dog sled, the canoe and latterly the bush 'plane—there are barge shipping facilities on the Mackenzie River route, a Government supply ship and an icebreaker to patrol east Arctic stations, a 100-mile narrow-gauge railway linking Whitehorse to the Alaska coast, a fair network of resources roads to mining areas and the main communities in the Yukon based largely on the Alaska Highway which cuts through the Territory, but only one road into the Northwest Territories (the Mackenzie highway) which connects Grimshaw in Alberta with Hay River on the south shore of Great Slave Lake. Scheduled civil air flights from Edmonton to Fort Smith, Yellowknife, Hay River and down the Mackenzie to Aklavik, augmented by extensive charter air services, have contributed immensely in conquering the northern distances. But substantial working of their vast mineral resources must await the construction of costly railway and resource development roads.

The responsibilities of the Government and people of Canada in the North extend beyond the field of transportation to that of assisting the Eskimo native peoples in the Arctic to make the necessary adaptation to inevitable change taking place through the conflict of cultures, western and stone age, and thereby facilitate improved welfare and living standards and the adoption of new industrial techniques among the only Canadians who have completely mastered the Arctic environment and possess attributes worth preserving in the interest not only of human adjustment but also of sound, long-term development of the Canadian North.



LOOKING NORTHWARD

Canada owns a vast area of Arctic real estate, and locked therein are secrets of nature that have caught the imagination of adventurers for centuries; but the great strategic and economic value of this bleak and dangerous North, unknown, unmapped and forbidding, has been recognized only within the past few decades when the advent of that revolution of transportation—the airplane—and the electronic age made widespread exploration possible.

The story of the North today is dramatic and exciting. This hostile land is yielding some of its mystery to man's ingenuity. The hum of aircraft, exploring, surveying, carrying heavy equipment and supplies, is commonplace and the great obstacle of distance is being overcome.

Meteorological stations now dot the great wastes and chains of radar defence stations keep watch over the skies. Aerial photographic surveys, providing the information for detailed maps, will give new knowledge to defence planners and aid the commercial development of the Arctic, which is already reaching the mineral exploration stage. The first Canadian roads through the western Territories to the Arctic Ocean are being built and sea routes investigated. Truly, Canada's horizons are receding northward.

Bombardiers haul supplies across endless stretches of jumbled rocks in the Ungava district of northern Quebec.

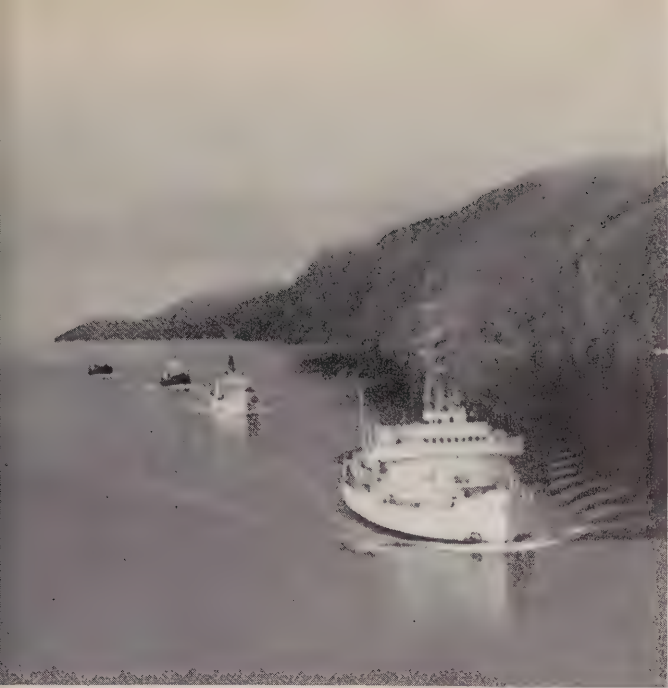


Oil is piped from Government icebreaker d'Iberville to an Arctic weather station at Eureka, Ellesmere Island.



The radar warning system stations, now dotted across the North, owe their existence and their maintenance to aircraft.





HMCS Labrador leads U.S. cutters over a course which she previously charted through Bellet Strait dividing Somerset Island from the Canadian mainland.

The helicopter is the work-horse of the Arctic—without it much of the development there could not have been carried out. Fuel caches, flown in by transport, support these aircraft in their local operations.

The now completed basic survey of the northland, which will be supplemented by a detailed photographic project starting in 1958, was made possible by Shoran, an electronic system used to determine the distance of an aircraft from each of two ground stations.



Hydrometric personnel make use of ski-equipped aircraft to visit remote stations in the Yukon.



Mosquito 35 used for high-altitude photography.



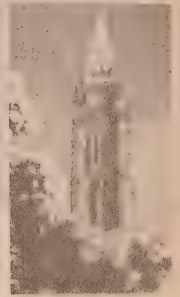


Malak

Down the slopes and out beyond the foot of Mount Royal spreads the great cosmopolitan city of Montreal, its galaxy of light penetrating the dusk.

People and Government

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Population

CANADA'S population is estimated to have approached the 17,000,000 mark by early 1958, and to have added 4,500,000 persons to its number since the end of the War. This is a tremendous increase in a short period of time, brought about by heavy immigration and a high rate of natural increase, but it is still a small population to occupy such an enormous stretch of land. The average density of population over all the provinces—not including the vast northern Territories which are largely unpeopled—is about eight to a square mile. There are, of course, heavy concentrations in the industrial areas of southern Ontario, southeastern Quebec and southwestern British Columbia, and in the older settled provinces of the eastern seaboard, but there are only seven cities in Canada which, with their suburban populations, can boast of more than 300,000 people. Outside of these aggregations, which account for about 5,000,000 persons, the population of the country is very sparse indeed.

The moulding of this scattered people into a unified nation through great networks of transport and communication facilities, often far more complex and costly than the number of users warranted at the time of construction, has been a great achievement. But more remarkable still is the fact that the Canadian people, now numbering hardly a quarter as much again as the metropolitan area of New York city, have mastered a formidable half-continent against almost impossible odds and have so used their capabilities and resources that they have attained a leading place in the industrial, social and political world and an opulent standard of life for themselves.

Apart from the recent influx of European immigrants, most of Canada's people are descendants of immigrants who came to this country generations

ago. The foundations of settlement were laid by colonists, French in origin and language, who arrived more than a century before the British conquest. These people have maintained a self-perpetuating society for 300 years, and the descendants of the original 10,000 constitute most of the French-Canadian population of today. Settlers from the British Isles came later and have continued to come from time to time throughout the years. To these two basic stocks belong more than three-quarters of the people of Canada. Their cultural differences, together with those of other ethnic groups that have joined them, have not been submerged in the Canadian environment but have rather been overlaid by a growing Canadian consciousness. These people belong to Canada and Canada to them. They have become distinctly and distinguishably Canadians.

An accurate count of the population and detailed analyses of its characteristics and movement are available only through the census which has been taken every ten years since 1871. However, the population changes were felt to be so great during the years immediately following the 1951 Census that a limited census was taken again in 1956, some of the findings of which are given below.

Today's Population Pattern

Striking changes took place in Canada's population between 1951 and 1956, demonstrated by rapid increase in size, a quickening pace of urban growth, and a considerable change in the pattern of family formation. Many factors combined to generate these trends. Economic prosperity since the end of the War encouraged marriages and thus brought about a phenomenal increase in the child population. A steady decline in the death rate—another reflection of the rising level of well-being—also had its effect on population growth. At the same time, intensive development of Canada's vast natural resources and expansion of employment opportunities stimulated immigration and tended to reduce emigration. These same social and economic forces, moreover, gave strong impetus to a large-scale redistribution of population across the country and altered its structure significantly.

In the 1956 Census, 16,080,791 persons were recorded as residents of Canada. The addition of nearly 2,100,000 to the country's population between 1951 and 1956 was the largest absolute increase in any five years



Earlier marriages and a higher birth rate are reflected in the size of family. This one, however, is larger than average, which is 4.6 persons where the head is under 45 years of age.



The child population of Canada has shown a tremendous increase since the end of the War, an increase that will begin to affect the labour force of the country by the middle 1960's. On the other hand, the number of young people just now entering employment or university is comparatively low since these are the children born during the later 1930's when both marriages and births were reduced because of the economic depression.



in Canadian history. Natural increase accounted for over 70 p.c. of it and net immigration for the remainder. Although natural increase in this period, as in the past, contributed by far the larger portion of the total growth, its relative importance in the increase was considerably below the record of the prewar decade because of a sharp rise in the volume of net immigration.

Between 1951 and 1956 the excess of immigration over emigration approached 600,000. Immigration amounted to 783,000, the largest recorded in any five-year interval since the end of World War I, while the estimated emigration of 183,000 was much smaller than in some of the earlier periods

of rapid population growth. A small proportion of these emigrants would be recent immigrants, so that the contribution made to Canada's population growth by immigration since 1951 may well have exceeded 30 p.c.

These additions to Canada's population—by birth or by immigration—were by no means evenly distributed among the provinces. Moreover, the large-scale movement of population accompanying industrial development of the country had varying effects upon the growth at the provincial level. In some provinces it served to reinforce the natural increase; in others it tended to depress the growth considerably below what might have been expected from natural increase alone. In the 1951-56 period, British Columbia recorded a 20-p.c. increase and, as in the preceding decade, ranked first in rate of growth. Alberta came next with an increase rate of 19.5 p.c. Ontario, which led in absolute increase with an impressive addition of over 807,000, ranked third in rate of growth. At the lowest end of the scale of growth was Prince Edward Island where population remained almost stable over the same period, while the growth rate in the other provinces ranged between 5.9 p.c. in Saskatchewan and 14.8 p.c. in Newfoundland.

The remarkable rates of increase in the fastest growing provinces were attained in large measure through migration. The net gain in British Columbia's population on this account amounted to as much as 58 p.c. of the total growth in the Province; the corresponding figures for Ontario and Alberta were 47 and 35 p.c. respectively. Quebec and Newfoundland also gained some through migration, although natural increase was the outstanding factor in their growth. All the other provinces suffered some loss through migration.

The predominant direction of the movement in all provinces has apparently been from rural to urban areas, although considerable migration within each type of area must also have been going on. The cityward movement of rural population is suggested, for example, by the fact that the total population increased 14.8 p.c. between 1951 and 1956, but the rural population only 3.4 p.c. The increase of approximately 174,000 in the rural population, moreover, was the difference between a gain of 312,000 in the non-farm population and an actual loss of 138,000 in the farm population. This loss of population from farm areas is, of course, a reflection of the declining demand for agricultural labour and the expansion of employment opportunities in manufacturing, trade and urban services. As a consequence, the proportion of the farm population to the expanding total of the country dropped from 19.8 p.c. in 1951 to 16.4 p.c. in 1956. The proportion of the rural population as a whole also fell from 37.1 p.c. to 33.4 p.c., but the proportion of the rural non-farm population remained practically unchanged at around 17 p.c.

By contrast, the urban population increased over this period at an impressive rate of 21.5 p.c. to reach 10,714,855 in 1956. The gain of over 1,897,000 in the urban areas actually accounted for more than 90 p.c. of the total growth. Dominant in this phenomenal expansion was the development of the metropolitan community. In 1956, nearly 6,300,000 persons lived in the fifteen metropolitan areas of Canada—more than one-third of the total population and close to 60 p.c. of the urban population. Moreover, the addition of over 1,000,000 persons to the metropolitan population in the 1951-56 period represented nearly half of the total population growth. Within the metropolitan areas, a spectacular growth rate of 41.7 p.c. was observed



Toronto, Canada's second largest city in population, and one of the great business and financial centres of the world. Here are the headquarters of many nation-wide organizations, particularly mining companies, banks and investment houses. Its stock exchange is second only to Wall Street in activity, and first in the world for mining transactions.

in the suburban areas, whereas the population in the cities proper increased by only 9 p.c. These dramatic changes applied to all the metropolitan centres without exception.

The shifts in vital trends and in migration brought about many changes in the age structure of Canada's population. High birth rates since the end of the War, combined with a remarkable reduction of infant deaths, resulted in a striking increase in the child population below age 15. In 1956 this age group was 23 p.c. larger than in 1951, and its proportion to the total population was 32.5 p.c.—the highest on record since 1921. Although the oldest age group, 65 and over, was 14.5 p.c. larger in 1956 than in 1951, its proportion to the total for all ages remained just about the same. On the other hand, the 15-24 age group, consisting largely of survivors of the small crops of babies born during the 1930's, was only 6.7 p.c. larger, and in its relative proportion dropped nearly 8 p.c. In other words, the young people just entering the labour market or entering university, and those who should be accounting for most of current marriages, increased at a much slower rate than the remainder of the Canadian population. Even for the working-age population as a whole—persons from 15 to 64 years of age—the increase over the same five years was no more than 10.8 p.c., despite a heavy concentration of immigrants in the productive ages. This was only half as

fast a rate of increase as shown by the combined dependent age population below 15 and above 64. The ratio of the dependent population to the working-age population thus increased from 61.5 p.c. in 1951 to 67.3 p.c. in 1956.

These age-structure changes were the outcome of interaction among diverse factors over a period of two or more generations. During the depression years of the 1930's, many marriageable people postponed marriage so that the married population increased only slowly and the birth rate declined. Since the War, however, a notable change has taken place in the marital pattern of Canada's population. The marriage rate, which had started to rise during the War, has remained at a remarkably high level throughout the postwar years. Although the average rate for the 1951-56 period was somewhat lower than that of the preceding five years, it was still considerably higher than in the prewar decade. The effect of this high marriage rate was that the proportion of the married to the total population aged 15 or over increased from 64.2 p.c. in 1951 to a record high of 65.8 p.c. in 1956. This trend is all the more remarkable when it is considered that the group of young marriageable adults increased at a much slower rate than other age groups, and that the increase in the proportion of the married was most pronounced among people under 25 years of age. Also, over the past 15 years there has been a sharp rise in the birth rate among younger women.

The effect of the trend toward earlier marriages and the higher birth rate among younger women is reflected in the size of family. The average number of persons per family where the head was under 35 years of age rose from 3.5 in 1951 to 3.7 in 1956, and the average where the head was between 35 and 45 increased from 4.4 to 4.6. Although these figures serve only as a crude measure of the average number of children per family, they are indicative of the prevailing tendency in the pattern of family formation which has brought about a tremendous expansion of the child population. Largely because the increase in the child population over the 1951-56 period was much greater than in any other segment of Canada's population, the rate of increase in the number of families in this period (12.9 p.c.) lagged behind the rate of growth of the total population (14.8 p.c.).

Population Growth, by Province, 1951-56

Province or Territory	Population		1951-56			
	1951	1956	Actual Increase		Natural Increase	Net Immigration ¹
	No.	No.	No.	p.c.	No.	No.
Newfoundland.....	361,416	415,074	53,658	14.8	52,892	766
Prince Edward Island....	98,429	99,285	856	0.9	8,920	-8,064
Nova Scotia.....	642,584	694,717	52,133	8.1	63,156	-11,023
New Brunswick.....	515,697	554,616	38,919	7.5	59,812	-20,893
Quebec.....	4,055,681	4,628,378	572,697	14.1	474,516	98,181
Ontario.....	4,597,542	5,404,933	807,391	17.6	431,913	375,478
Manitoba.....	776,541	850,040	73,499	9.5	73,651	-152
Saskatchewan.....	831,728	880,665	48,937	5.9	85,978	-37,041
Alberta.....	939,501	1,123,116	183,615	19.5	119,307	64,308
British Columbia.....	1,165,210	1,398,464	233,254	20.0	98,006	135,248
Yukon and N.W.T.....	25,100	31,503	6,403	25.5	3,615	2,788
Canada.....	14,009,429	16,080,791	2,071,362	14.8	1,471,766	599,596

¹ Immigration minus emigration.



A dominant feature of Canada's recent population pattern is the movement of people from the rural districts into the towns and cities. The older urban centres are surrounded with growing suburban areas and new towns are springing up around industrial projects. Urban population advanced by nearly 22 p.c. from 1951 to 1956, but rural population by not much more than 3 p.c.

Halifax is one of Canada's oldest cities. The population of its metropolitan area, including Dartmouth across the harbour, increased by 23 p.c. from 1951 to 1956 The site of the thriving town of Chibougamau in the Quebec wilderness, which now has a population of more than 3,500, no more than three years ago boasted only a few log cabins.



Rural-Urban Population Change, by Province, 1951-56

Province or Territory	Rural			Urban		
	1951 ¹	1956	Change 1951-56	1951	1956	Change 1951-56
	No.	No.	p.c.	No.	No.	p.c.
Newfoundland.....	207,057	229,822	11.0	154,359	185,252	20.0
Prince Edward Island....	73,744	68,815	- 6.7	24,685	30,470	23.4
Nova Scotia.....	287,236	295,623	2.9	355,348	399,094	12.3
New Brunswick.....	296,228	300,326	1.4	219,469	254,290	15.9
Quebec.....	1,340,340	1,387,540	3.5	2,715,341	3,240,838	19.4
Ontario.....	1,221,717	1,302,014	6.6	3,375,825	4,102,919	21.5
Manitoba.....	336,961	339,457	0.7	439,580	510,583	16.2
Saskatchewan.....	579,258	558,662	- 3.6	252,470	322,003	27.5
Alberta.....	489,003	487,292	- 0.5	450,498	635,824	41.1
British Columbia.....	340,466	371,997	9.3	824,744	1,026,467	24.5
Yukon and N.W.T.....	19,782	24,388	23.3	5,318	7,115	33.8
Canada.....	5,191,792	5,365,936	3.4	8,817,637	10,714,855	21.5

¹ Areas for 1951 adjusted to 1956 boundaries.

Rural Farm and Non-farm Population Change, by Province, 1951-56

Province or Territory	Farm			Non-farm		
	1951 ¹	1956	Change 1951-56	1951	1956	Change 1951-56
	No.	No.	p.c.	No.	No.	p.c.
Newfoundland.....	15,509	10,138	-34.6	191,548	219,684	14.7
Prince Edward Island....	46,757	43,112	- 7.8	26,987	25,703	- 4.8
Nova Scotia.....	110,198	95,381	-10.4	177,038	200,242	13.1
New Brunswick.....	144,257	125,011	-13.3	151,971	175,315	15.4
Quebec.....	760,905	740,387	- 2.7	579,435	647,153	11.7
Ontario.....	638,680	632,153	- 1.0	583,037	669,861	14.9
Manitoba.....	214,435	202,163	- 5.7	122,526	137,294	12.1
Saskatchewan.....	398,279	360,651	- 9.4	180,979	198,011	9.4
Alberta.....	339,376	327,201	- 3.6	149,627	160,091	7.0
British Columbia.....	100,818	95,338	- 5.4	239,648	276,659	15.4
Yukon and N.W.T.....	72	52	-27.8	19,710	24,336	23.5
Canada.....	2,769,286	2,631,587	- 5.0	2,422,506	2,734,349	12.9

¹ Areas for 1951 adjusted to 1956 boundaries.

Population Increase in Metropolitan Areas, 1951-56

Metropolitan Area	1951 ¹	1956	Increase		
			Metro- politan Area	City Proper	Fringe Area
			p.c.	p.c.	p.c.
Calgary.....	140,645	200,449	42.5	40.8	61.1
Edmonton.....	173,748	251,004	44.5	41.6	77.1
Halifax.....	133,931	164,200	22.6	9.0	46.7
Hamilton.....	272,327	327,831	20.4	15.0	37.8
London.....	128,977	154,453	19.8	6.7	56.9
Montreal.....	1,395,400	1,620,758	16.2	8.6	36.8
Ottawa.....	292,476	345,460	18.1	9.9	36.4
Quebec.....	274,827	309,959	12.8	4.1	25.7
Saint John.....	78,337	86,015	9.8	3.4	21.6
St. John's.....	67,313	77,991	15.9	8.0	44.8
Toronto.....	1,117,470	1,358,028	21.5	-1.2	56.3
Vancouver.....	561,960	665,017	18.3	6.1	37.8
Victoria.....	108,285	125,447	15.8	6.3	24.4
Windsor.....	163,618	185,865	13.6	1.6	46.6
Winnipeg.....	354,069	409,121	15.5	8.2	30.1
Totals.....	5,263,383	6,281,598	19.3	9.0	41.7

¹ Areas for 1951 adjusted to 1956 boundaries.

Population by Age Group, 1951 and 1956

Age Group	1951		1956		Increase 1951-56
	No.	p.c.	No.	p.c.	p.c.
0 - 14.....	4,250,717	30.4	5,225,210	32.5	22.9
15 - 24.....	2,146,613	15.3	2,291,411	14.2	6.7
25 - 34.....	2,173,949	15.5	2,414,422	15.0	11.1
35 - 44.....	1,867,700	13.3	2,139,784	13.3	14.6
45 - 64.....	2,484,177	17.7	2,766,026	17.3	11.3
65 or over.....	1,086,273	7.8	1,243,938	7.7	14.5
Totals.....	14,009,429	100.0	16,080,791	100.0	14.8

Married Population 15 Years of Age or Over, by Age Group, 1951 and 1956

Age Group	1951		1956		P.C. Increase 1951-56
	No.	P.C. of Group Total	No.	P.C. of Group Total	
15 - 24..... 25 - 34..... 35 - 44..... 45 - 64..... 65 or over..... Totals.....	MALE				
	142,309	13.3	163,956	14.2	15.2
	766,504	71.9	885,563	73.3	15.5
	803,711	84.7	926,988	86.0	15.3
	1,066,985	83.0	1,195,785	83.9	12.1
	362,245	65.7	414,349	66.6	14.4
	3,141,754	63.8	3,586,641	65.4	14.2
	FEMALE				
	323,923	30.1	360,024	31.6	11.1
	901,073	81.3	1,013,756	84.1	12.5
35 - 44..... 45 - 64..... 65 or over..... Totals.....	771,939	84.1	914,906	86.2	18.5
	900,505	75.1	1,014,030	75.6	12.6
	222,384	41.6	257,316	41.4	15.7
	3,119,824	64.5	3,560,032	66.3	14.1

Vital Statistics

Despite the high rate of immigration during the postwar years, natural increase has accounted for the greater part of Canada's recent population growth. The annual number of births has been increasing steadily since the late 1940's and reached an all-time record of 475,000 in 1957, about double the annual number in the 1920's and 1930's. On the other hand the birth rate (calculated on the basis of 1,000 total population), although fluctuating from year to year, has remained fairly steady at 27 to 28, with a sudden upsurge to an estimated 28.6 in 1957, as compared with 20 to 24 between 1926 and 1946. This is one of the highest rates among the more industrialized countries of the world.

Among the provinces, Ontario has had the greatest number of births in recent years (143,516 in 1956) followed by Quebec (135,884); on the other hand, Newfoundland has had the highest birth rate (35.0 in 1956), followed by Alberta, New Brunswick and Quebec (29.4). Ontario has had the lowest rate.



Canada has one of the highest birth rates among the countries of the industrial world. Here is part of the 1957 crop, which averaged nearly 1,300 daily.

The annual number of marriages remained remarkably steady at 124,000 to 128,000 from 1950 to 1955, followed by an upsurge to about 133,000 in 1956 and to an estimated 136,000 in 1957. The latter came close to the record of 137,000 in 1946. However, the marriage rate (per 1,000 population) has dropped steadily from the record 10.9 in 1946 to around 8.2 or 8.3 in recent years.

The national death rate has declined steadily from 11.6 in 1921 to an estimated 8.4 in 1957, a saving of three lives out of every 1,000 in the population. Had the 1921 rate prevailed in 1957 there would have been 192,000 deaths instead of an estimated 139,000. Partly because of its relatively young population, Canada's death rate is one of the lowest in the world, and compares with a rate of about 9.3 for the United States and 11.7 for the United Kingdom.

During the past decade the risk of mortality has been reduced, particularly among children and young adults, mainly through "control" of the infectious diseases. The result is that the average age of persons dying each year has been raised by about 20 years from 40 to over 60. The second result is that greater numbers are dying from a smaller number of causes. About one-third of the annual death toll results from diseases of the heart; another 16 p.c. from cancer; vascular lesions of the central nervous system (cerebral hæmorrhages, embolism, thrombosis and "strokes") account for 11 p.c.; accidents for 7 p.c.; and respiratory diseases such as pneumonia, bronchitis and influenza for about 5 p.c. Almost 5 p.c. of the annual death toll results from causes associated with early infancy; in fact, 11 p.c. of all deaths comprise infants who do not survive their first birthday, 60 p.c. of whom die shortly after birth.

Mortality rates for heart disease, cancer and particularly accidents are increasing steadily each year. Highway traffic fatalities alone increased

15 p.c. from 2,953 in 1955 to 3,491 in 1956, more than the number who died from tuberculosis, typhoid, scarlet fever, diphtheria, whooping cough, poliomyelitis, measles, influenza and bronchitis combined.

Births, Marriages and Deaths, 1926-57

(Newfoundland included from 1949)

Year	Births		Marriages		Deaths		Natural Increase	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹
Av. 1926-30...	236,712	24.1	71,924	7.3	109,164	11.1	127,548	13.0
Av. 1931-35...	228,591	21.5	68,660	6.5	103,800	9.8	124,791	11.7
Av. 1936-40...	229,064	20.5	96,931	8.7	109,764	9.8	119,300	10.7
Av. 1941-45...	277,320	23.5	114,091	9.7	115,572	9.8	161,748	13.7
Av. 1946-50...	355,748	27.4	126,898	9.8	120,438	9.3	235,310	18.1
Av. 1951-55...	416,334	28.0	128,915	8.7	126,666	8.5	289,668	19.5
1951.....	381,092	27.2	128,408	9.2	125,823	9.0	255,269	18.2
1952.....	403,559	27.9	128,474	8.9	126,385	8.7	277,174	19.2
1953.....	417,884	28.1	131,034	8.8	127,791	8.6	290,093	19.5
1954.....	436,198	28.5	128,629	8.4	124,855	8.2	311,343	20.3
1955.....	442,937	28.2	128,029	8.2	128,476	8.2	314,461	20.0
1956.....	450,739	28.0	132,713	8.3	131,961	8.2	318,778	19.8
1957 (est.)....	475,000	28.6	136,000	8.2	138,800	8.4	336,200	20.2

¹ Per 1,000 population.

Births, Marriages and Deaths, by Province, 1956

Province or Territory	Births		Marriages		Deaths		Maternal Deaths	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ²
Nfld.....	14,541	35.0	3,073	7.4	3,058	7.4	23	1.6
P.E.I.....	2,657	26.8	649	6.6	933	9.4	1	0.4
N.S.....	19,106	27.5	5,543	8.0	5,738	8.3	6	0.3
N.B.....	16,573	29.9	4,591	8.3	4,658	8.4	9	0.5
Que.....	135,884	29.4	37,290	8.1	35,042	7.6	125	0.9
Ont.....	143,516	26.6	46,282	8.6	47,231	8.7	70	0.5
Man.....	21,945	25.8	6,709	7.9	7,058	8.3	6	0.3
Sask.....	24,059	27.3	6,403	7.3	6,666	7.6	8	0.3
Alta.....	34,951	31.1	9,965	8.9	7,786	6.9	14	0.4
B.C.....	36,241	25.9	11,950	8.5	13,415	9.6	13	0.4
Yukon.....	481	40.1	112	9.3	85	7.1	—	—
N.W.T.....	785	41.3	146	7.7	291	15.3	3	3.8
Canada....	450,739	28.0	132,713	8.3	131,961	8.2	278	0.6

¹ Per 1,000 population.

² Per 1,000 live births.

Immigration

Since the end of the War the policy of the Canadian Government has been to foster the growth of the population by encouraging immigration.

The numbers entering Canada year by year were as follows:—

1946.....	71,719	1953.....	168,868
1947.....	64,127	1954.....	154,227
1948.....	125,414	1955.....	109,946
1949.....	95,217	1956.....	164,857
1950.....	73,912	1957.....	280,000
1951.....	194,391		
1952.....	164,498		
		TOTAL.....	1,667,176

Immigrants are drawn from countries whose people have most in common with the Canadian people. The volume of immigration is adjusted to

absorptive capacity of the national economy and is kept under constant review. To a certain degree, immigration tends to be self-regulating, since immigrants are not prone to tempt fate in a new country unless they are reasonably certain to obtain employment without too long a delay.

The record for postwar immigration was set in 1957 when 280,000 persons came to Canada's shores. Not since 1913, when immigration reached the all-time high of 400,870, had there been such an influx of newcomers to this country. The final months of 1956 had been marked by a sharp upward swing, accentuated by the Suez crisis and the uprising in Hungary. The Canadian economy remained buoyant throughout the following winter, with the result that immigrant workers who arrived during these months had little difficulty in finding employment and reports of their success encouraged others to follow. In the face of a strong demand for labour, special measures were taken to provide adequate transatlantic transportation during the spring and early summer, so that there would be a maximum movement of workers during the first part of the year, with dependants to follow later. However, it became apparent in early spring that this great flow of immigrants might not be as readily absorbed as had been expected and control measures were applied.

Of the 280,000 immigrants admitted during 1957, about 115,000 or 41 p.c. were British; in previous years since 1946 immigrants from the United Kingdom and Ireland had represented approximately 30 p.c. of total immigration. The next largest group were the Hungarian refugees (approximately 33,000), followed by immigrants from Germany (29,000), Italy (18,000), and the Netherlands (13,000). The remainder were composed of some forty nationalities, including 9,000 from the United States, 8,000 from Denmark and 6,000 from France. Their intended destinations in Canada were:—

Newfoundland.....	408	Manitoba.....	10,294
Prince Edward Island.....	107	Saskatchewan.....	3,719
Nova Scotia.....	2,406	Alberta.....	18,667
New Brunswick.....	1,504	British Columbia.....	33,266
Quebec.....	47,005	Yukon and Northwest	
Ontario.....	126,737	Territories.....	153

The youthful character of the immigrant population is indicated by the fact that 67 p.c. of those admitted in 1957 were under 30 years of age; 60 p.c. were in the 20-39 age group, which has the highest potential rate of productivity; and only 7 p.c. were over 45 years of age.

Some 56 p.c. of the immigrant arrivals (158,000) were destined to augment Canada's labour force, and for the most part they were readily established in employment. Approximately 58,000 were skilled and semi-skilled workers to help meet the demands of the manufacturing, mechanical and construction trades. Managerial and professional occupations accounted for more than 16,200 workers. Of these, 3,200 were professional engineers of all types, a significant addition at a time when engineer services in Canada were at a premium—engineers graduated from Canadian universities in 1957 numbered only 1,735.

Perhaps the most noteworthy immigration development in 1957 was the arrival in Canada of the large groups of Hungarian refugees. Urgent steps taken by the Government immediately following the suppression of the uprising in Hungary resulted in 4,167 refugees being moved to Canada by the end of 1956, a figure that increased to 36,000 by the end of 1957. The

A family is examined on board ship by a Canadian Government immigration officer. A great many of the immigrants coming to Canada are young people — almost one-third of those arriving in 1957 were under twenty years of age and two-thirds under thirty.



From the deck of the "Homerick" tying up at her berth, most of the thousand passengers get their first look at Montreal. The ship's arrival on Sept. 23, 1957, was the first of seven from Europe in one week, bringing over 6,000 persons.



majority of these refugees are young and possess a high degree of skill and training, representing a cross-section of the labour force in Hungary. The degree to which they are becoming established in this country is at once a tribute to the high quality of the refugees themselves and to the goodwill and humanity of the Canadian people who have been generous in their response to the needs of these people.

The Immigration Branch of the Department of Citizenship and Immigration is responsible for all matters related to the encouragement of immigration and the selection of immigrants, the examination of tourists and other travellers seeking entry into Canada, and the exclusion of prohibited or undesirable persons. It operates through five administrative districts across Canada and through offices at London, Liverpool, Leeds, Bristol, Glasgow, Belfast, Dublin, Paris, Brussels, The Hague, Stockholm, Helsinki, Oslo, Copenhagen, Berne, Rome, Lisbon, Athens, Vienna, Cologne, Stuttgart, Berlin, Munich, Hamburg, New Delhi, Tel Aviv and Hong Kong. The examination of immigrants at other points is carried out through the facilities of Canadian diplomatic missions or British consular offices.

The Eskimos and Indians

The Eskimos and Indians of Canada, though only a very small segment of the total population, are of special concern to the Federal Government—the Eskimos in comparatively recent years as civilization has reached them in their northern habitat, and the Indians since the early days of colonization when it became difficult for them to follow their traditional way of life.

Eskimos.—In the whole of Canada's vast northland live about 11,000 Eskimos, descendants of the last of the prehistoric immigrants from eastern Asia. The struggle for existence in a harsh land kept their numbers low but before the white man reached them they had evolved a most remarkable culture and were thoroughly at home in their environment. Most of them lived along the Arctic coast and subsisted on sea mammals—a few lived inland depending mainly on caribou. They were almost invariably a good-natured, mentally alert people, skilful with their hands and having a definite sense of the artistic.

Contact with fur traders and whalers at the beginning of the century brought the first radical change to the Eskimo way of life—depleted the resources on which they depended, taught them the use of firearms and gave them a taste for different food. But the full force of western civilization is only now reaching the country of the Eskimos, and the people are ill-prepared to meet it. Most of them still live a semi-nomadic life tied to the seasonal pursuits of hunting, trapping and fishing, but defence measures are bringing people from the south and the mining industry is beginning to spread into the Arctic. Ships, aircraft, trucks, heavy machinery, buildings and imported food are becoming part of the North, and the isolation that has protected the Eskimos for so long is being rapidly shattered.

The Canadian nation, through the Department of Northern Affairs and National Resources and other agencies, has embarked on a program to discharge its moral responsibilities to see the Eskimos through this transition period. With other Canadians they share family allowances, old age

security and assistance, and the blind, the disabled and the needy are provided for, but the objective envisaged for them is a high standard of health, good educational facilities and a full and valuable place in the development of the country to which they belong.

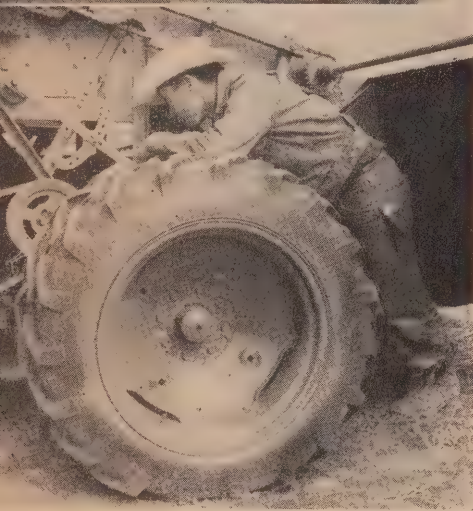
The health problem is paramount at present because the people have built up little immunity to certain diseases. Regular health surveys are made and, when treatment is required, the Eskimos are moved to hospitals in southern Canada. The problem of readjustment to northern life after prolonged stay in a different environment is taken care of by rehabilitation hostels recently established in the North.

Although, with the increase in the North of defence activities, transportation facilities and mining, it has become possible for some Eskimos to enter wage-earning employment, not all are able to take advantage of the opportunities now opening to them. Education is needed to give them the competence, the skills and the experience necessary to find a place in the new activities. Since the Second World War a number of schools have been built throughout the Arctic to provide primary education, but because of the small and scattered population they can minister to only a small portion of the children. Hostels are therefore being established where children whose parents live far from the schools can board during the school term. Vocational training is being provided at a number of settlements in the North, and some Eskimos are taking technical courses in southern Canada.



The home of the Eskimo is no longer the isolated untouched land of the ages but an area of new development which is rapidly bringing these good-natured adaptable people into the orbit of civilization. The change-over from stone-age to hydrogen-age existence within one generation has created many problems and most of the social activity in the North is based on guiding the Eskimo through this difficult period.





The younger generation of Indian is not satisfied with the way of life of his forebears but is preparing to assist in the improvement of existence on the reserve or to take his place in the industrial and social activities of the non-Indian community.

The welfare and advancement of these people is very important to the future of the North and to the future of Canada. They will have available advice and guidance from government officers in relation to their new occupations and to their social life. Government financial assistance will be given to establish new economic activities, but the underlying principle governing all counsel and material assistance is that it be temporary and that the people of the Arctic will again stand on their own and manage their own lives in a changed North.

Indians.—When the white man first came to the North American Continent there were perhaps 200,000 Indians in what is now Canada. This number had greatly diminished through war and disease by the time peace treaties were signed whereby the Indians were assigned certain tracts of land scattered across the country which were to be used in perpetuity as their own. These reserves, 2,223 in number and 6,000,000 acres in extent, have now an Indian population of about

163,000, a population increasing by some 4,000 persons annually. These people are the *official* Indian people who are entitled to special consideration and assistance under the Indian Act and do not include those who have, throughout the years, become enfranchised and assimilated with the rest of the population. In 1956, 841 Indians left the protection of the reserves to take their places as ordinary citizens in the non-Indian community.

The Indian Canadian has a cultural heritage different from Canadians of European descent, which has been perpetuated by isolated living. His concepts of time, money, social communication, hygiene, competition and co-operation are at variance with those of his fellow Canadians and often act as a stumbling block to social adjustment. It is the broad objective of the Federal Government, working through the Indian Affairs Branch of the Department of Citizenship and Immigration, so to educate and assist these people that they will become increasingly self-supporting independent members of the community and at the same time retain their identity as part of the human treasury of the country. They are gradually being given more responsibility in the handling of their own affairs. Band councils, mostly elected but sometimes still chosen according to tribal custom, may make by-laws on various matters of a local nature and exercise a control over the expenditure and management of their funds and property. Apart from special provisions of the Indian Act, Indians are subject to federal, provincial and municipal laws, the same as all other Canadian citizens. They receive, also, all the benefits of national social assistance.

The age-old pattern of Indian employment in hunting, fishing, trapping and farming, though it is still important, is changing and today, singly or in groups, Indians may be found in any one of a hundred occupations. Those living in the more southerly parts of Canada have made great strides in the transition to regular seasonal or year-round work off the reserves, in the woods industries, in mining, in agriculture, in construction and in industrial employment. Many live and work in towns and cities alongside their non-Indian neighbours and some have earned enviable reputations in the learned professions. But now, even in the isolated reserves of the northern areas the advancing frontiers of civilization, industry and defence are awakening the Indians to new ways.

The Indian himself realizes that times have changed, that the traditional economy of the reserves cannot meet the needs of a rapidly growing population, alert to a constantly improving standard of living. This realization is expressed in an increasing demand for more vocational and trades training and better general education. In the 1956-57 academic year, 35,022 Indian students were enrolled in elementary schools on and off reserves, and 2,283 were attending secondary schools, colleges and special courses. Recently a new employment service has been set up to assist the increasing numbers of Indian young people leaving school to find suitable jobs in the non-Indian community and to make the necessary social adjustment for a satisfactory life there.

Sitting Eagle, proud Chief of the Stony Indian tribe, dons his colourful native regalia only for ceremonial events.





The first gathering of a new Parliament in the House of Commons is governed by ancient parliamentary tradition and ritual. The new Government Leader, the Right Honourable John G. Diefenbaker, backed by his supporters and faced by the Opposition, performed, on Oct. 14, 1957, his first act of the Commons as Prime Minister—the nominating of the Speaker who presided over the House for the life of the Twenty-Third Parliament. Because the Speaker does not represent the Government in power but the whole House, the nomination was seconded by the Leader of the Opposition and given unanimous approval.

Government

A bold and somewhat unique experiment in nation-building was launched on July 1, 1867, in the northern half of the North American Continent. On that day was created a federal union of the three British North American provinces of Canada (the two parts formerly known as Upper and Lower Canada being renamed Ontario and Quebec), Nova Scotia and New Brunswick under the name of Canada. Within four years, upon the acquisition of the vast interior of Rupert's Land and the Northwestern Territory (1870) and the admission of the Pacific Coast province of British Columbia (1871), the new Dominion, in an unparalleled westward expansion, was extended to the Pacific. Although the Province of Prince Edward Island entered Confederation two years later, followed by the spacious Canadian off-shore Arctic Archipelago in 1880, it remained for Britain's oldest colony of Newfoundland to round out the nation's territorial growth through union with Canada as a province as late as Mar. 31, 1949.

That the Canadian experiment in nation-building was a bold one is evident in the diverse and formidable geographical, cultural and economic obstacles that faced the Fathers of Confederation some ninety-odd years ago; that it was likewise unique is evident in the political solution they devised through a combination of the British parliamentary system of Cabinet government with a distinctly Canadian adaptation of the principles of federalism then operating in the United States.

Nothing but a broad federal union possessing a powerful central government would ensure the survival of the scattered and isolated colonies from the dangers of economic collapse and political absorption by the United States. Nothing but an expanding Canada could hope to hold the West as a new frontier of settlement and provide the nation with a new strategic staple of trade. Nothing but a broad territorial union could sponsor extensive railway construction essential to the linking of the Maritimes with the St. Lawrence Lowlands, to overcoming the barriers of the Canadian Shield and the Western Cordillera, to the settlement and exploitation of the vacant western plains, or to the realization of the vision of a vast internal free-trade area and a strong and diversified economy.

Only a federal union, with a generous measure of provincial autonomy, would end the political deadlock inherent in the cultural dualism of the peoples of the two Canadas. Only such a federal system of democratic government gave promise



of harmonizing the two streams of English and French culture, of enabling autonomous provinces severally to enact legislation befitting their peculiar regional circumstances, and of facilitating among diverse elements the growth of a common Canadian national sentiment.

Only a federal union would meet the demands of sectionalism, of diversely endowed regions, and of vast distances in a transcontinental state; permit the logical division of legislative powers whereby the central government would be competent to deal with all matters of national concern and the provincial governments with all those of local concern. And to ensure the continued evolution of parliamentary democracy in British North America, federalism would leave unimpaired in both the national and the provincial arenas the practice of the unwritten conventions of responsible government recently won by the colonial legislatures—the responsibility of prime minister and cabinet to the legislature and the invaluable integration of legislative and executive functions, at both levels of government. Between federal and provincial governments there would be merely a division of powers or fields of administration; the conventions of parliamentary government would continue paramount in each.

Such were the visions, concepts and ambitions of the Fathers of Confederation as they drafted at Quebec (1864) the Seventy-two Resolutions out of which the British North America Act of 1867 was largely fashioned.

Distribution of Legislative Jurisdiction.—Under the British North America Act, which emerged from Westminster on Mar. 29, 1867, and became effective July 1, 1867, the new Canadian federation was provided with a powerful central government as essential to its defence, to the development of its resources and to the extension of its authority to the far western and northern territories. The impressive array of twenty-nine specific powers, listed in the Act as falling within the exclusive legislative authority of the Parliament of Canada, included control of the Armed Forces, the regulation of trade and commerce, banking, credit, currency and bankruptcy, criminal law, postal services, the fisheries, patents and copyrights, the Census and statistics, the raising of money by any mode of taxation, and in the field of communication such matters as navigation and shipping, railways, canals and telegraphs. In addition, the Act endowed the Federal Government with a residual authority in matters beyond those specifically assigned to the provincial legislatures and including the power to make laws for the peace, order and good government of Canada.

The provinces, on the other hand, were granted the modest powers set out in sixteen headings, embracing mainly such matters of local or private concern as property and civil rights, civil law, provincial company charters, municipal government, hospitals and asylums, licences, the management and sale of public lands, and direct taxation within the province for provincial purposes. Legislation concerning immigration and agriculture could be enacted by both the Parliament of Canada and the provincial legislatures with the federal law having overriding authority in the event of a conflict.

In view of the cultural dualism of the new Dominion, the provincial legislatures were endowed with exclusive authority in relation to education, subject to federal intervention in questions involving legal rights in denominational schools. For a like reason, the Act safeguarded the use of the English

Canada has grown from a frontier colony to a powerful transcontinental nation since Lieutenant-Governor Simcoe convened the first Assembly of Upper Canada on Sept. 17, 1792, at Freemasons' Hall, Newark (now Niagara-on-the-Lake). The sixteen members of this little Parliament, elected on a property franchise, laid the foundations of government for a rich and growing province in central Canada by introducing English civil law, establishing trial by jury, fixing the tolls for millers, and providing for the erection of courthouses. But neither this Assembly nor those held previously in the Maritime Provinces as yet enjoyed responsible cabinet government or held the power of the purse.



In opening the Twenty-Third Parliament, elected by adult franchise throughout the nation, the presence of Her Majesty the Queen on Oct. 14, 1957, symbolized the national sovereignty of Canada in all matters of domestic and external affairs as well as its membership in a Commonwealth of Nations sharing time-honoured freedoms and benefits of parliamentary democracy.



and the French languages, it being specifically provided that either language may be used in the debates of the Parliament of Canada and of the Legislature of Quebec and in any court of Canada; and that both languages shall be used in the respective records and journals and in the published Acts of the Parliament of Canada and of the Legislature of Quebec.

The Parliament of Canada

Next to the distribution of legislative jurisdiction between the central and provincial governments in the new Canadian Confederation, the most significant feature of the Canadian constitution is its unwritten parliamentary system "similar in principle to that of the United Kingdom".

That the Canadian constitution is founded on the British parliamentary system is evident in the fact that Parliament embraces the Queen, the Senate and the House of Commons; that the executive and legislative powers are in close identification through the control of administration by leaders of the parliamentary majority; and that the judiciary is virtually independent of control by either the executive or legislative branches of government. The Crown is the unifying symbol of all three spheres of power.

The Queen.—Although *Her Majesty Queen Elizabeth II* is Queen of Canada, her personal participation in the functions of the Crown for Canada is necessarily reserved to such occasions as a royal visit or the periodic appointment of a personal representative on the advice of her Canadian Ministers.

The presence of Her Majesty at the opening of Canada's 23rd Parliament, on Oct. 14, 1957, was an occasion of unprecedented significance for Canadians. In delivering the Speech from the Throne, the Queen became the first Sovereign to inaugurate in person a session of Parliament as Head of State of Canada, acting on the direct advice of her Canadian Ministers. The Queen's emphasis on this her sovereign role as Queen of Canada—made explicitly clear in the Royal Style and Titles enacted by the Parliament of Canada and proclaimed by Her Majesty in 1953—tended to focus anew the attention of Canadians upon the role of the Crown today both as the symbol of the national sovereignty of her realm of Canada and as the symbol of the free association and unity of the equal and sovereign nations of the Commonwealth. Moreover, it emphasized the uniqueness of Canada as a kingdom among republics in the Western Hemisphere as well as the continuity of Canada's national development as a parliamentary democracy grounded deep in the ancient traditions of the Mother of Parliaments, in British law, precedent and convention, and embracing time-honoured freedoms and proven institutions.

The personal representative of the Queen in Canada is the *Governor General*, appointed by Her Majesty entirely on the advice of the Prime Minister of Canada and usually for a term of five years. He exercises such formal authority as summoning, proroguing and dissolving Parliament and assenting to Bills in the Queen's name. The present Governor General of Canada, the Right Honourable Vincent Massey, C.H., is the first Canadian to hold this high office. Appointed on Jan. 24, he assumed office on Feb. 28, 1952, and in 1958 received a second year's extension to his term of office.

The active Canadian executive authority for controlling the exercise of the powers of the Crown resides in the Cabinet or Ministry.



OTTAWA—now Canada's Capital for one hundred years.

A frontier lumbering town, almost lost in the wilderness and isolated from the main routes of trade of the time, was named by Queen Victoria on Dec. 31, 1857, the Capital of her great sprawling domain on the North American Continent. Intense rivalry for the honour among the more active centres perhaps prompted the decision, but the town had certain merits of its own. Although situated in Upper Canada, it was right on the border of Lower Canada. Its population was a nice mixture of English, Irish, Scottish and French. It was accessible to Montreal, Quebec, Kingston and Toronto by rail and water. It had the Rideau Canal as a military defence and was far enough from the frontier to be reasonably safe from invasion. But, whatever the reason, the choice has proved a good one and Ottawa has become a national capital of distinction. The magnificence of its setting has not changed. It is still a small city—a mainly government city—a city of driveways and parks and trees and homes—a city grown in beauty with great plans for the future.



The House of Commons.—A new House of Commons is elected at least once every five years under an adult franchise conferred upon Canadian citizens or British subjects, male and female, who have been resident in Canada for twelve months prior to polling day. Representation by provinces and territories is now as follows:—

Newfoundland.....	7	Alberta.....	17
Prince Edward Island.....	4	British Columbia.....	22
Nova Scotia.....	12	Yukon Territory.....	1
New Brunswick.....	10	Mackenzie District, Northwest Territories.....	1
Quebec.....	75		
Ontario.....	85		
Manitoba.....	14	TOTAL.....	265
Saskatchewan.....	17		

Constitutional convention under the parliamentary system of representation requires that the leader of the national party that has won the largest number of seats in a newly elected House of Commons shall be asked by the Queen's personal representative to form the Government. The Ministry—responsible for determining all important policies of government and securing the passage of such legislation, financial measures and administrative provisions as their supporters may approve—is chosen by the Prime Minister to be representative, as far as possible, of the several regions of the country and its principal cultural, religious and social interests.

The party standing following the General Election of June 10, 1957, ensured that the national leader of the Progressive Conservative Party and his colleagues would constitute the Ministry of the day, and that Ministry under the leadership of Prime Minister John G. Diefenbaker, assumed office on June 21. The 23rd Parliament, one of the shortest in the history of Canada, was dissolved on Feb. 1, 1958, and the General Election of Mar. 31, 1958, returned the Progressive Conservative Party to power with an overwhelming majority (208 Progressive Conservatives, 49 Liberals and 8 Co-operative Commonwealth Federation). The membership of the Ministry, as at May 15, 1958, and their respective portfolios are listed below according to precedence.

Rt. Hon. John George Diefenbaker.....	Prime Minister
Hon. Howard Charles Green.....	Minister of Public Works
Hon. Donald Methuen Fleming.....	Minister of Finance and Receiver General
Hon. Alfred Johnson Brooks.....	Minister of Veterans Affairs
Hon. George Hees.....	Minister of Transport
Hon. Leon Balcer.....	Solicitor General
Hon. George Randolph Pearkes.....	Minister of National Defence
Hon. Gordon Churchill.....	Minister of Trade and Commerce
Hon. Edmund Davie Fulton.....	Minister of Justice and Attorney General
Hon. George Clyde Nowlan.....	Minister of National Revenue
Hon. Douglas Scott Harkness.....	Minister of Agriculture
Hon. Ellen Louks Fairclough.....	Minister of Citizenship and Immigration
Hon. J. Angus MacLean.....	Minister of Fisheries
Hon. Michael Starr.....	Minister of Labour
Hon. William McLean Hamilton.....	Postmaster General
Hon. James MacKerras Macdonnell.....	Minister without Portfolio
Hon. William J. Browne.....	Minister without Portfolio
Hon. Paul Comtois.....	Minister of Mines and Technical Surveys
Hon. Jay Waldo Monteith.....	Minister of National Health and Welfare
Hon. Francis Alvin George Hamilton.....	Minister of Northern Affairs and National Resources
Hon. Sidney Earle Smith.....	Secretary of State for External Affairs
Hon. Raymond O'Hurley.....	Minister of Defence Production
Hon. Henri Courtemanche.....	Secretary of State

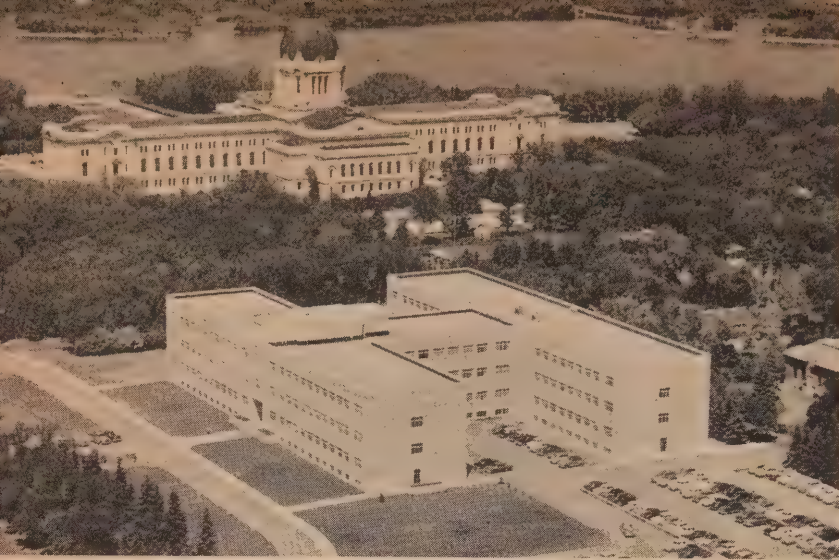


His Excellency the Right Honourable Vincent Massey—scholar, industrialist, diplomat and sponsor of the arts—on the first of March 1958 began his seventh year as Governor General of Canada. His duties carry him to every corner of the country, symbolizing to all people this nation of Canada and its ties with the Commonwealth.

The Senate.—The Senate or Upper House of the Parliament of Canada shares with the House of Commons the responsibility for the enactment of all federal legislation in that Bills must pass both Houses before receiving Royal Assent through the Governor General. Yet the influence of the Senate on legislation is immeasurably less than that of the Commons in which most public Bills are introduced by the Ministry and to which the latter is responsible. The most striking evidence of this fact is that any Bill for the expenditure of any public money or the imposition of any tax must originate in the elected House, by custom, through the Cabinet. None the less, the Senate has the power to perform a valuable service to the nation in amending and delaying the passage of measures that might result from sudden shifts in public opinion or party strength.

Canadian Senators are summoned for life by the Governor General, on the nomination of the Prime Minister, with equality of representation for regional divisions (except in the Atlantic Provinces after the entry of Newfoundland in 1949 with six Senators). The representation in the Senate by regions and provinces is as follows:—

Ontario.....	24	Western Provinces.....	24
Quebec.....	24	Manitoba.....	6
Atlantic Provinces.....	30	British Columbia.....	6
Nova Scotia.....	10	Alberta.....	6
New Brunswick.....	10	Saskatchewan.....	6
Prince Edward Island.....	4		
Newfoundland.....	6	TOTAL.....	102



Saskatchewan's Legislative Building in the prairie city of Regina is resplendent in its garden setting. It faces a man-made lake and behind it stands the new government administration building.

The Yukon Territory and the Northwest Territories lack representation at present in the Senate.

While the Ministers of the Crown carry the political responsibilities of their respective departments, the Federal Civil Service forms the staffs of the twenty departments and of various boards, commissions, bureaux and other agencies of the Government. The day-to-day administration of a department is handled by a permanent head, usually known as Deputy Minister. The majority of the civil servants are recruited, classified and promoted by the Civil Service Commission of Canada.

Provincial and Territorial Government

The Provinces.—Similar political institutions and constitutional usages operate in the government of the ten provinces as in that of the nation as a whole. In each province the Queen is represented by a Lieutenant-Governor appointed by the Governor General in Council, usually for a term of five years. The powers of the Lieutenant-Governor in the provincial sphere are essentially the same as those of the Governor General in the federal sphere.

The Legislature of each of the provinces comprises, in addition to the Lieutenant-Governor, an elected Legislative Assembly and, for Quebec only, a Legislative Council of 24 members appointed for life by the Lieutenant-Governor in Council. The franchise in provincial elections is granted, generally speaking, to every adult 21 years of age or over, although in Saskatchewan, Alberta and British Columbia the age is 18, 19 and 19, respectively. The conventions of Cabinet government operate in the Legislative Assembly of each of the provinces as in the House of Commons at Ottawa. Provincial premiers and administrations as at Jan. 1, 1958, were as follows:—

Newfoundland.....	Hon. J. R. Smallwood.....	Liberal
Prince Edward Island.....	Hon. Alexander W. Matheson..	Liberal
Nova Scotia.....	Hon. R. L. Stanfield.....	Progressive Conservative
New Brunswick.....	Hon. Hugh John Flemming....	Conservative
Quebec.....	Hon. Maurice L. Duplessis....	Union Nationale
Ontario.....	Hon. Leslie M. Frost.....	Progressive Conservative
Manitoba.....	Hon. Douglas L. Campbell....	Liberal-Progressive
Saskatchewan.....	Hon. T. C. Douglas.....	Co-operative Commonwealth Federation
Alberta.....	Hon. Ernest C. Manning.....	Social Credit
British Columbia.....	Hon. W. A. C. Bennett.....	Social Credit

The Territories.—The vast and sparsely populated regions of northern Canada lying outside the ten provinces and comprising Yukon Territory and the Northwest Territories have attained both elected representation in the House of Commons and a measure of local self-government. The local government of Yukon Territory is composed of a chief executive, styled Commissioner, appointed by the Federal Government, and a locally elected Legislative Council of five members, meeting at Whitehorse. The government of the Northwest Territories is vested in a Commissioner (who is the Deputy Minister of the Department of Northern Affairs and National Resources) assisted by a Council of nine members of whom four are elected by popular franchise in the Territories and five are appointed by the Federal Government from among federal officials. The Council meets annually in the Territories and at least once each year at Ottawa which is the Seat of Government.

Local Government

As local government at the municipal level falls under the jurisdiction of the provinces, there are ten distinct systems of municipal government in Canada, as well as many variations within each system. The variations are attributable to differences in historical development and in area and population density of the 4,266 incorporated municipalities. Possessing the power exclusively to make laws respecting municipal institutions, the provincial legislature of each province has divided its territory into varying geographical areas known generally as municipalities and more particularly as counties, cities, towns, villages, townships, rural municipalities, or municipal districts. Municipalities are incorporated by provincial legislation and have various powers and responsibilities suited to their classification. A municipality

A new structure houses the civic administration of Edmonton, the Capital of Alberta, and the fastest growing city in Canada.



is governed by an elected council whose head may be called the mayor, reeve, warden or overseer, and the other citizens who are its members may be known as controllers, aldermen or councillors.

The responsibilities of the municipalities are generally those most closely associated with the citizen's everyday life, his well-being and his protection. To maintain these services, the municipality is empowered to place tax levies on the citizen's property and to secure revenue from business licences, permits and poll taxes.

The Judiciary

The Canadian judiciary interprets the law and administers justice. The provinces are authorized to administer justice in the territories under their jurisdiction, including the organization of civil and criminal courts and the establishment of procedure in civil matters in those courts. Legislation concerning criminal law and the procedure in criminal matters is under the jurisdiction of the Parliament of Canada.

Judges of the superior, district and county courts in each province, except those of the courts of probate in Nova Scotia and New Brunswick, are appointed by the Governor General in Council and their salaries, allowances and pensions are fixed and paid by the Parliament of Canada.

The Supreme Court of Canada is the court of final appeal in Canada, and exercises general appellate jurisdiction throughout the nation in civil and criminal cases. The jurisdiction of the Exchequer Court extends to cases embracing claims made by or against the Crown in the right of Canada. The Chief Justice of Canada and the puisne judges of the Supreme and Exchequer Courts are appointed by the Governor General in Council.

Canada's External Relations

There has been gradual evolution in the principle and in the conduct of Canada's foreign policy since Confederation. In its earliest period, Canada's external relations were conducted by the United Kingdom, but Canadian participation and consultation increased with constitutional progress towards sovereign status within the Commonwealth. The Department of External Affairs was established in 1909 and in 1919 a Canadian representative signed the Treaty of Versailles for Canada. In the ensuing years Canada, in consultation with other members of the Commonwealth, assumed the conduct of all international affairs which affected it directly. On the outbreak of war in 1939, Canada's diplomatic and consular service numbered only 32 officers serving in Ottawa and at seven posts abroad, which might be said to reflect the degree of Canadian involvement in international affairs at the time.

The political and economic aftermath of the War emphasized the interdependence of nations and obliged Canada to undertake international commitments and accept responsibilities which perhaps might not have been considered in the prewar period. Canada played its full part in the organization of the United Nations and its Specialized Agencies, demobilized its Armed Forces and concentrated its efforts towards the reconstruction of a peaceful international community. When, in 1949, it became increasingly obvious that the United Nations seemed unable to ensure the degree of

security against possible aggression which appeared necessary to maintain world peace, collective action for self-defence on a regional basis was taken by Canada and other like-minded countries to form the North Atlantic Treaty Organization. The ability to assume greater international responsibilities, including assistance to war-devastated areas and to under-developed countries, was made possible, in great measure, by the remarkable long-term expansion of the Canadian economy. The postwar period witnessed a gradual increase in Canadian representation abroad to achieve Canada's objectives, carry out its responsibilities and protect its interests in a changing world. In 1957 the Department of External Affairs had 380 officers of whom 179 were in Ottawa and the remainder abroad at 62 posts.

In summation, the principal external factors determining Canada's present role in world affairs include its strategic geographic position; its membership in the Commonwealth; its obligations to the United Nations and the North Atlantic Treaty Organization; its close relationship with the United States with which Canada shares a continent; and its dependence on international trade as the world's fourth largest trading nation. Throughout this evolutionary development Canadian foreign policy objectives have remained the maintenance of international peace, freedom and well-being and, in the economic field, the development of the widest possible area and volume of trade on a multilateral basis.

The Commonwealth.—Membership in the Commonwealth is a fundamental part of Canada's position in world affairs. It is valued for the strength and support arising from a lasting relationship and for the opportunity to influence events by working closely with like-minded nations sharing the same political ideals and standards of international conduct.

The effectiveness of the Commonwealth is maintained by constant consultation and friendly exchange of views between all members. Such consultation is carried on in many different ways—by daily exchanges of information, by meetings of officials, either in Commonwealth capitals or at meetings of the United Nations and other international organizations and by meetings of Prime Ministers or members of governments. The decision of India, Pakistan, Ceylon and, most recently, Ghana and Malaya, to remain within the Commonwealth on attaining their independence has demonstrated the vitality and usefulness of the Commonwealth as an association in which every geographical area and many different races of the world are represented.

The Hon. Sidney E. Smith, Canada's Secretary of State for External Affairs, chats with Chief Kola Balogun, Minister of Research and Information of the Federal Nigerian Government, during the Chief's visit to Ottawa in November 1957.



The importance of economic relations within the Commonwealth has been emphasized by the decision following the meeting of Commonwealth finance ministers at Mount Tremblant, Que., in September 1957, to hold a Commonwealth Trade and Economic Conference in 1958.

Canada's principal share of aid to materially under-developed countries has been channelled through the Colombo Plan, which began as a scheme to assist the Commonwealth countries in southeast Asia and has been extended to cover other countries in the area. From its beginning in 1950 to April 1958 Canada has made \$196,800,000 available to the Plan. Among the projects assisted by Canada's contribution have been irrigation and hydro-electric developments in India and Pakistan, an atomic reactor in India and a fisheries development program in Ceylon. Canadian experts have been sent to work in southeast Asia and a large number of scholars from the area have received training in Canada in agriculture, engineering, medicine, business and public administration and many other fields.

The United Nations.—Canada has been active in all phases of the work of the United Nations since 1945 when she participated in the drafting of the United Nations Charter at San Francisco. Then, as now, Canada shared the conviction that this world organization was essential to international security and progress and that Canada must be willing to assume its full share of responsibility for maintaining the peace and for promoting the well-being of the postwar world through the United Nations.

When lack of unanimity among the great powers prevented the UN from dealing effectively with problems of international security, the urgent need to organize collective self-defence prompted Canada to take an active part in the creation of NATO. But, important as that organization has become to Canadian security, support for the UN remains a basic feature of Canada's international policy.

In 1948 and 1949, Canada did its share as a member of the Security Council in mediating the disputes in Kashmir, Indonesia and Palestine. At the time of the invasion of South Korea in 1950, Canadians looked to the UN to answer with decision this greatest challenge to its principles, and promptly joined in the collective UN action that stopped aggression there. During the Middle East crisis in 1956, Canada played a significant part in UN actions which resulted in the cease-fire in Egypt and in the formation of the



The Hon. L. B. Pearson was the first Canadian to receive the Nobel Peace Prize. He accepted the 1957 award, in a ceremony before King Olav of Norway, with the plea for all mankind to "work for the empire of peace".



The genius of Canadian and United States engineers, combined on a four-year program, has halted the alarming recession of the famous Horseshoe Falls. Excavation and filling operations along both flanks of the Falls has preserved and enhanced the beauty of Niagara for generations to come and a control structure a mile upstream permits the utilization of Niagara water more effectively for the generation of electricity.

UN Emergency Force for the Middle East. Since 1946 Canada has taken an active part in the various United Nations bodies constituted for negotiations on disarmament.

Canada has been elected by the General Assembly to serve another two-year term on the Security Council in 1958 and 1959. Canada is also serving a three-year term on the Economic and Social Council which began on Jan. 1, 1956.

In 1957 Canada was assessed at the rate of 3.15 p.c. as its share of the regular budget of the UN. This assessment together with Canada's assessments to the budgets of the UN Specialized Agencies amounted to about \$3,100,000. In addition, a contribution of \$3,600,000 went to such special UN programs as the UN Children's Fund, the UN Relief and Work Agency for Palestine Refugees in the Near East, the UN Refugee Fund and the UN Expanded Technical Assistance Program. These financial contributions have been reinforced by the provision of training facilities in Canada for UN Fellows and by sending abroad Canadian experts under UN auspices.

NATO.—The primary objective of NATO is to provide a strong military deterrent to any aggression within the North Atlantic area. This co-operative

deterrent comprises a powerful strategic bomber force, supported by ground and naval forces, maintained in readiness to blunt an attack for long enough to permit the West's retaliatory forces to carry out their role. As part of Canada's contribution, the Royal Canadian Navy has earmarked warships for the defence of coastal waters in the Canada-U.S. region and for the NATO naval forces under the control of the Supreme Allied Commander, Atlantic (SACLANT); a Canadian infantry brigade group is on duty in Germany under the Supreme Allied Commander, Europe (SACEUR); and 12 squadrons of the RCAF serve at bases in France and Germany, also under SACEUR. Canada also co-operates closely with the United States in providing forces and facilities for the security of the North American region.

Since its inception in April 1950, the Canadian Mutual Aid Program has resulted in the provision of military assistance to Canada's NATO allies to an amount of over \$1,600,000,000. At Dec. 31, 1956, a total of 2,241 pilots and 2,237 navigators had graduated under the NATO aircrew training plan carried out at RCAF establishments in Canada.

The role of NATO also encompasses non-military co-operation. Parties to the Treaty have agreed to strengthen their free institutions, promote conditions of stability and well-being and seek to eliminate conflict in their economic policies.

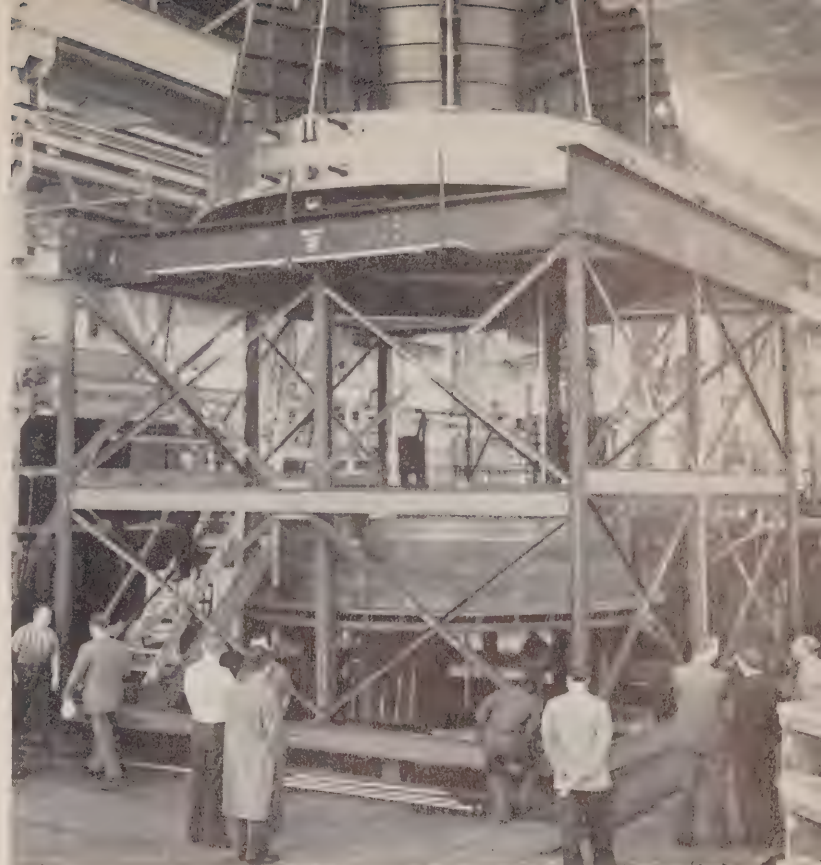
The United States.—The fact that Canada is a neighbour of the most powerful nation in the free world has an important bearing on the formulation and execution of Canadian foreign policy. Since the end of the Second World War there have emerged a growing number of problems of common concern to the two countries—problems related to the joint defence of the North American area of the North Atlantic Treaty and to the construction of continental defence installations in the Canadian North; co-operation in research and experimental projects; trade and economic relations; and boundary waters, including the development of the St. Lawrence Seaway.

Posts Abroad.—At the end of 1957, Canada was represented abroad by the following diplomatic and consular posts:—

Embassies (33)			Legations (4)	
Argentina	Germany	Peru	Czechoslovakia	
Austria	Greece	Portugal	Finland	
Belgium	Haiti	Spain	Lebanon	
Brazil	Indonesia	Sweden	Poland	
Chile	Israel	Switzerland		
Colombia	Ireland	Turkey		
Cuba	Italy	U.S.S.R.		
Denmark	Japan	United States		
Dominican Republic	Mexico	Uruguay		
Egypt	Netherlands	Venezuela		
France	Norway	Yugoslavia		
Consulates General or Consulates (13)			Permanent Delegations and Missions (4)	
Australia	Brazil:	United States:	Berlin (Military Mission)	
Ceylon	São Paulo	Boston	Geneva (United Nations)	
Ghana	Germany:	Chicago	New York (United Nations)	
India	Hamburg	Detroit	Paris (North Atlantic Council and Organization for European Economic Co-operation)	
New Zealand	Iceland:	Los Angeles		
Pakistan	Reykjavik	New Orleans		
South Africa	Philippines:	New York		
United Kingdom	Manila	Portland, Maine		
		San Francisco		
		Seattle		

Six years of the Colombo Plan have elapsed—years in which Canada and other member nations have made an intensive effort to help in the economic development of the countries of south and southeast Asia. Canada has made available nearly \$200,000,000 for capital and technical assistance, mostly in India, Pakistan and Ceylon.

Pile components of the Canada-India nuclear reactor are assembled in Canada prior to shipment so that no adjustment will be needed when the pile is re-assembled at Bombay.



A Canadian plant pathologist—one of the many Canadians contributing their skills to Colombo Plan work—has been engaged since 1954 in research on disease-plagued Malayan rice crops.

Canadian technicians, using Canadian aircraft and equipment, have helped unfold the story of mineral deposits in the hitherto unexplored Malayan jungles.



The Canadian Trade Commissioner in India hands a bag of Canadian wheat to the Bombay State Food Minister. The first consignment of \$7,000,000 worth of wheat given to India by Canada arrived Dec. 24, 1957.





George Hunter

*Good is the land,
And good the life it gives!*

Resources and Production

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THE Canadian people have become increasingly conscious of their privileged position on the northern half of this great Continent, endowed by nature with a tremendous variety of resources which technologically advanced facilities of production have put to human use both at home and abroad.

Although the dominance of the initial trilogy of primary industries—agriculture, fisheries and forestry—make their output of decisive importance to various regions of the country, it is upon the utilization of vast energy resources of water power, petroleum, natural gas and uranium, upon the exploration and working of untold mineral wealth on an ever-broadening geographical front, upon increased production of the pulp and paper and wood industries and upon a rapidly lengthening list of manufactured products that Canada's place among the world's modern industrial giants is founded. Rich in the sources of industrial power, endowed with a growing population of freedom-loving, healthy and vigorous people, possessing many frontiers to challenge their endeavours, and governed by the most pragmatic concepts of democracy, Canada has cause to face the future with confidence.

Agriculture

CANADA'S era as a predominantly agricultural country has now passed. In the early days, agriculture of necessity took first place and until the beginning of the twentieth century farmers and their families made up the majority of the population. Today the actual farming population is only 17.1 p.c. of the total. But, while farm population has been shrinking both relative to the total and in actual numbers, farm production has continued to increase. Actually, productivity per man-hour has advanced far more rapidly in agriculture than in any other part of the economy. Electricity, mechanical

equipment, specialization, and marketing information and assistance have permitted the farmer to add to the size of his holdings, to handle them with less farm labour and to increase his cash income. At the same time, scientific and technical developments bringing, among other things, better crop varieties, better cultivation and animal husbandry practice, improved fertilizers and weed and pest controls have raised the quality of farm products. Canada today is quite self-sufficient in the production of food for its growing population, importing only such items as coffee, tea, spices, cane sugar and citrus fruits which cannot be grown in this country and also appeasing consumer demand for fresh vegetables and fruits during the off-season. Such imports vary little in amount from year to year and average about 4 p.c. of Canadian farm production. At the same time, Canada produces far more of certain agricultural products such as wheat, barley and livestock than can be consumed domestically and has become a leading exporter of food products to other countries. Exports average about 28 p.c. of total agricultural production.

The amount of land in Canada classified as farm land is limited to about 8 p.c. of the total land area and only half of this 8 p.c. is under cultivation, the other half being in woodlots or suitable only for grazing purposes. The vast prairie region of Western Canada, where 75 p.c. of the present cultivated land is found, was opened up when the first transcontinental railway was built in the 1880's. From that period until about 1930 settlement was very rapid and about 163,000,000 acres were brought under cultivation. Since 1930 only about 11,000,000 acres have been added to the productive farm land, bringing the total to approximately 174,000,000 acres in 1957. There will be little increase in this acreage in the future. Irrigation and reclamation will undoubtedly bring some now waste lands into use and science may produce crops that can be grown in more northerly regions but, on the other hand, some of the most valuable and heavily cultivated lands close to urban centres will be lost to agriculture and some unprofitable lands which should never have been cleared will be reforested. This does not mean that Canada has reached its peak in farm production. Most of the land now being worked is capable of much more intensified farming than it is undergoing at present and therein lies Canada's agricultural future.

There have been many changing trends in farm economy and farm life in Canada in recent years. In 1931 there were more than 728,000 farms across the country, a number that was reduced to 575,000 by 1956. The

acreage of farm land under cultivation, as has been mentioned, is greater so that there has been a constant growth in farm size.



Although eggs for home or local use are still produced on the mixed farm, an increasing proportion of those sold on the commercial market today come from specialized poultry farms. Eggs are here being graded before leaving the farm.

Rural young people across Canada are active participants in the 4-H Club Movement. Local clubs elect their own officers and help plan their own programs, designed to keep them in the forefront of advanced farming practices and home-making. In 1957 there were more than 73,000 enrolled in 5,092 clubs.



Most of this increase through the years has been confined to the prairie region as homesteads were consolidated into units large enough to yield a satisfactory income; thus prairie farm size has increased by about 25 p.c. in the past quarter-century. Nevertheless, the average size of farm in Canada as a whole increased from 279.3 acres in 1951 to 302.5 acres in 1956, reflecting a trend towards the reorganization of farm business and more efficient use of labour and capital.



Although Canadian farming is now highly mechanized, the use of mechanical power is a fairly recent development. Tractors, combines and other types of farm machinery were available before World War II, but at that time Canadian agriculture was recovering from the depression and horses were still used. Then, because most agricultural machinery manufacturers were engaged on war work and few machines were available, it was not until after 1946 that farmers were able to take full advantage of the large range of power machinery and equipment developed for farm purposes. In 1941 there were approximately 160,000 tractors in use on farms, but by 1956 the number had risen to 499,811. The number of grain combines in 1941 totalled some 19,000; in 1956 they numbered 136,927. In the 1951-56 period farm trucks increased 41.3 p.c. to 277,183; automobiles 6.8 p.c. to 352,018; and gasoline engines 36.5 p.c. to 249,779. Canadian farmers have also been making good use of electric power—more than 422,000 of the 575,000 farms are connected to hydro lines, or are generating their own power.

Larger farms and greater mechanization of farm operations has had an effect on the farm labour force. During the 1930's the size of the agricultural labour force increased somewhat as a result of unemployment in other sectors of the economy. During the War it of course declined, but by 1946 the 1931 level of about 1,250,000 was regained. However, other industries began to



Grapes now rank with peaches and apples as a major source of income for the farmers of the Niagara district. Because the yield per acre is high and because grape-growing fits in well with other crops on a mixed farm, the acreage has more than doubled in the past twenty-five years. The bulk of the crop finds its way to the local wineries or is exported to the United States.

entice farm workers with greater opportunities, and the need for them lessened as farmers replaced them with machines. Thus, in the years from 1946 to 1956, the number of farm workers decreased by 494,000, leaving an estimated 777,000 people employed on farms at the end of the period.

The domestic market for most agricultural products has also shown marked trends and marked expansion since 1946. The increase of nearly 4,500,000 people in the population and the higher consumer purchasing power resulting from economic stability and little unemployment has created a much greater demand for food products and a demand for better quality foods. There has been increased use of high protein foods such as meat, poultry and eggs, and of the protective foods such as milk and processed dairy products. There has also been greater consumption of fruits and vegetables, both fresh and canned, but consumption of cereals and potatoes has declined. Thus, Canadians appear to be enjoying a much better balanced diet and the housewife is spending more of her food budget on higher priced foods. That food budget, by the way, averages about one-quarter of the family income.

Farm Income

Cash income from farming operations was estimated at \$2,662,000,000 in 1956, about 13 p.c. higher than in 1955. Over 90 p.c. of the 1956 income originated in the Prairie Provinces, Ontario and Quebec. The remainder of slightly less than 10 p.c. was contributed about equally by the Maritime Provinces and British Columbia.

Although the cash income of Prairie Province farmers in recent years has been about the same as that of farmers in the Provinces of Ontario and Quebec, types of farming in these two areas are markedly different. About 57 p.c. of the 1956 prairie cash farm income was derived from the sale of field crops, principally cereal grains. In the remainder of Canada, where grass is the basis of the farm economy, only 8 p.c. of the cash income was

derived from field crops and about 92 p.c. was derived from livestock and their products, fruit, forestry and miscellaneous farm products.

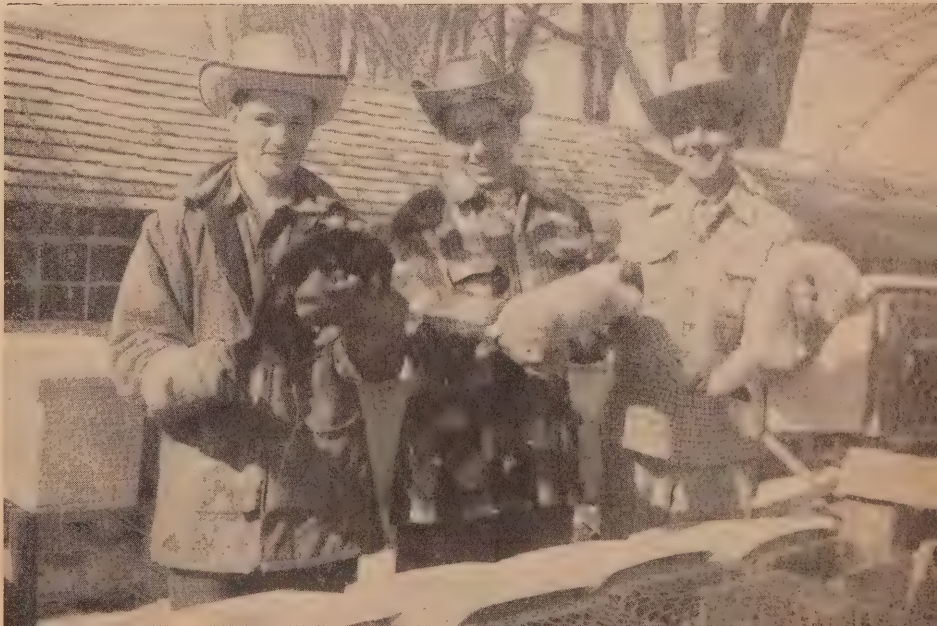
The cash income from farming operations includes income from the sale of farm products and, for western farmers, participation payments on previous years' grain crops together with supplementary payments made under the provisions of the Prairie Farm Assistance Act (*see* p. 93). Other sources of revenue such as income from off-farm work and income from investments are not included. 'Income in kind' is included in the national farm accounts, representing the value of produce grown by farm operators and consumed in the farm home, as well as an imputed rental value for the farm dwelling.

The sum of total cash income, income in kind and total value of year-end inventory changes constitutes *gross* farm income accruing to agriculture from farm operations. In 1956 this total was estimated at \$3,200,000,000 compared with \$3,000,000,000 in 1955. The figure of *net* farm income, however, which is the amount accruing to farm operators for family living, savings and investment after the deduction of farm operating expenses and depreciation from the gross income estimate, reflects more than any other figure the well-being of Canadian agriculture. From a postwar high of \$2,200,000,000 reached in 1951, farm net income declined to \$1,200,000,000 in 1954—a precipitous drop caused by a general farm commodity price decline, the havoc created by recurring rust in the western grain crop and by a steady increase in farm expenses. In 1955, net farm income again turned upward to an estimated \$1,400,000,000 and reached \$1,600,000,000 in 1956.

Cash Income from the Sale of Farm Products, by Province, 1954-56

Province	1954	P.C. of Total	1955	P.C. of Total	1956	P.C. of Total
	\$'000		\$'000		\$'000	
Prince Edward Island...	24,374	1.0	25,931	1.1	26,428	1.0
Nova Scotia.....	44,296	1.9	42,745	1.8	44,410	1.7
New Brunswick.....	48,835	2.0	47,797	2.0	51,370	1.9
Quebec.....	406,960	17.0	424,193	18.0	440,967	16.6
Ontario.....	714,375	29.9	749,104	31.8	749,293	28.1
Manitoba.....	187,890	7.9	173,542	7.4	209,209	7.9
Saskatchewan.....	472,424	19.7	424,650	18.0	597,622	22.4
Alberta.....	386,245	16.1	365,130	15.5	432,963	16.3
British Columbia.....	107,011	4.5	104,041	4.4	109,884	4.1
Totals.....	2,392,410	100.0	2,357,133	100.0	2,662,146	100.0

Mink, wild or ranch, is still the King of Furs and Canadian mink is the world choice in quality. Production amounts to about 1,000,000 ranch and 250,000 wild pelts a year. Standard dark, pastel and sapphire animals are displayed at a large Ontario farm.



Cash Income from the Sale of Farm Products, by Source, 1956

Source	Cash Income	Source	Cash Income
	\$'000		\$'000
Grains, seeds and hay.....	796,902	Miscellaneous farm products...	49,293
Vegetables and other field crops...	179,201	Forest products sold off farms...	87,973
Livestock and poultry.....	897,829	Fur farming.....	13,215
Dairy products.....	445,913		
Fruits.....	34,705	Cash Income from Sale of	
Eggs, wool, honey and maple products.....	157,115	Farm Products.....	2,662,146

Net Income of Farmers from Farming Operations, 1953-56

Item	1953	1954	1955	1956
	\$'000	\$'000	\$'000	\$'000
1. Cash income.....	2,775,795	2,392,410	2,357,133	2,662,146
2. Income in kind.....	399,325	393,194	403,306	411,551
3. Value of changes in inventory.....	50,263	-115,409	210,820	169,747
4. Gross Income (Items 1 + 2 + 3)...	3,225,383	2,670,195	2,971,259	3,243,444
5. Operating expenses and depreciation charges.....	1,530,057	1,511,637	1,581,391	1,675,415
6. Net income, excluding supplementary payments (Item 4-5).....	1,695,326	1,158,558	1,389,868	1,568,029
7. Supplementary payments.....	1,572	2,427	33,338	5,004
8. Net Income of Farm Operators from Farming Operations.....	1,696,898	1,160,985	1,423,206	1,573,033

Estimates for 1957.—On the basis of yields evident by October 1957, production of major field crops were below 1956 levels. In total, the reductions approximated 36 p.c. but this decline was compensated by increases in the production of livestock, poultry, eggs, fruit and vegetables so that farm cash income would remain near the 1956 level of \$2,662,000,000. Livestock marketings in 1957 promised to exceed 1956 levels by 5 p.c. to establish a new postwar record, despite the fact that pork product sales were somewhat lower. Poultry and eggs showed signs of excess production resulting in lower prices. Thus, over-all trends in 1957 were toward reduction of surpluses through natural causes, a firmness in prices and an increase in livestock production.

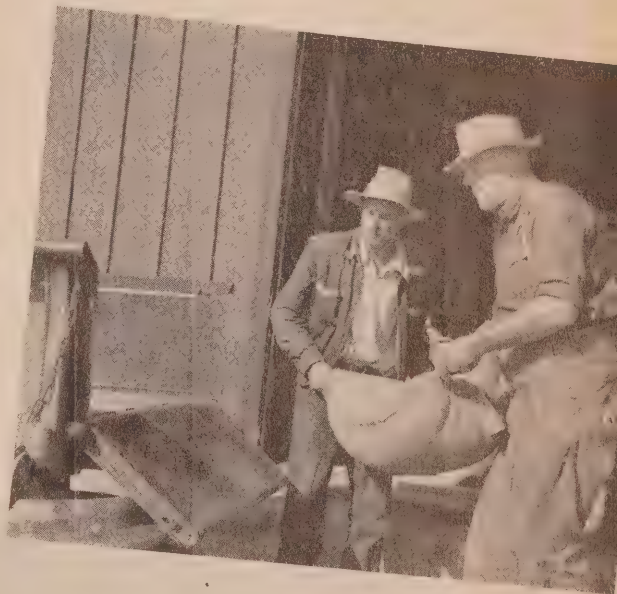
Field Crops

Crop conditions across Canada were variable in 1957. Dry weather resulted in a poor hay crop in the Maritime Provinces and summer drought over wide areas of the Prairies reduced crop yields to well below the average of recent years. On the other hand, growing conditions were generally excellent during most of the summer in Quebec, Ontario and British Columbia and, with some local exceptions, crop yields were highly satisfactory in these provinces. Harvesting conditions were fairly satisfactory in most parts of the country, except in the northern areas of Alberta and British Columbia where rain and snow prevented completion of harvest. Thus, production of most of the field crops in 1957 was lower than in 1956. Of 21 field crops, only fall rye, corn for grain, soybeans, potatoes, rapeseed, sunflower seed, fodder corn and sugar beets increased.

Total marketing of the five major grains in Western Canada in the crop year 1956-57 amounted to some 584,900,000 bu. compared with 567,300,000 bu. in 1955-56 and the ten-year (1945-46 to 1954-55) average of 556,300,000 bu. Combined exports of the five grains, including wheat flour, rolled oats and oatmeal, malt, and pot and pearl barley expressed in grain equivalent, totalled 389,000,000 bu. as against 406,500,000 bu. in 1955-56 and the ten-year average of 369,900,000 bu.

Reflecting above-average production in 1956, and exports below the previous season's level, combined stocks of the five major grains at July 31, 1957, were estimated at a record 1,108,200,000 bu., 34 p.c. above the previous year-end carry-over and 177 p.c. above the ten-year average. However, with smaller crops being harvested in 1957, total supplies for the 1957-58 crop year were somewhat below 1956-57 levels. Supplies of the five major grains for 1957-58, consisting of the July 31 carry-over stocks and 1957 production, were estimated as follows (1956-57 figures in parentheses): wheat, 1,103,100,000

Registered seed of recognized varieties for cereal, oil, forage and vegetable crops is made available for purchase by farmers. As new varieties are developed by Experimental Farm plant breeders, the foundation stocks of these varieties are made available to Canadian Seed Growers' Association members for multiplication into sufficient quantities for the general farming public. Registered seed assures a high level of varietal purity, high germination and relative freedom from seeds of other crops and weeds.



bu. (1,152,600,000 bu.); oats, 610,000,000 bu. (643,600,000 bu.); barley, 362,800,000 bu. (380,000,000 bu.); rye, 22,700,000 bu. (23,900,000 bu.); and flaxseed, 27,600,000 bu. (37,000,000 bu.).

Weather conditions favoured the development of high quality in the 1957 western crop of hard red spring wheat, about 88 p.c. of which was expected to enter the top four grades (Nos. 1 to 4 Northern). The 1957 crop marks a return to the exceptionally strong wheats which Canada harvested continuously during the dry periods of the late 1930's and early 1940's. Production of Durum wheat in the Prairie Provinces amounted to some 44,400,000 bu. compared with 39,600,000 bu. in 1956.

Estimated Area, Yield and Production of Principal Field Crops, 1956 and 1957

Crop	Area		Yield per Acre		Production	
	1956	1957	1956	1957	1956	1957
	acres	acres	bu.	bu.	bu.	bu.
All wheat.....	22,781,100	21,030,800	25.2	17.8	573,062,000	373,508,000
<i>Winter wheat</i>	625,000	590,000	32.0	33.2	20,000,000	19,588,000
<i>Spring wheat</i> ¹	22,156,100	20,440,800	25.0	17.3	553,062,000	353,920,000
Oats for grain.....	11,706,800	11,017,000	44.8	34.9	524,445,000	384,599,000
Barley.....	8,390,400	9,403,200	32.1	23.4	269,065,000	219,993,000
All rye.....	547,300	550,600	15.7	15.5	8,584,000	8,539,000
<i>Fall rye</i>	368,400	439,500	15.8	16.6	5,834,000	7,299,000
<i>Spring rye</i>	178,900	111,100	15.4	11.2	2,750,000	1,240,000
Flaxseed.....	3,040,800	3,485,600	11.3	5.7	34,463,000	19,979,000
Mixed grains.....	1,560,500	1,452,200	42.7	43.6	66,608,000	63,292,000
Corn for grain.....	509,100	514,500	54.6	57.6	27,814,000	29,613,000
Buckwheat.....	168,000	107,400	18.9	20.5	3,177,000	2,202,000
Peas, dry.....	87,900	84,900	20.7	16.5	1,817,000	1,400,000
Beans, dry.....	65,600	62,500	17.5	17.5	1,146,000	1,094,000
Soybeans.....	243,200	256,000	21.8	25.5	5,301,000	6,524,000
			cwt.	cwt.	cwt.	cwt.
Potatoes.....	312,500	311,000	132.3	135.2	41,359,000	42,062,000
			lb.	lb.	lb.	lb.
Mustard seed.....	137,600	92,150	969	772	133,300,000	71,112,000
Rapeseed.....	351,900	647,500	854	702	300,468,000	454,688,000
Sunflower seed.....	33,000	35,000	500	550	16,500,000	19,250,000
			tons	tons	tons	tons
Tame hay.....	10,922,000	11,452,000	1.80	1.64	19,655,000	18,838,000
Fodder corn.....	394,200	370,700	8.75	9.74	3,450,000	3,612,000
Field roots.....	39,700	32,900	10.71	10.79	425,000	355,000
Sugar beets.....	78,878	83,912	11.32	12.21	892,955	1,024,703

¹ Includes relatively small quantities of winter wheat in all provinces except Ontario.



Manpower on the farm is being replaced with horsepower—with the increasing use of mechanical and electrical equipment, the farms of Canada are reaching a much higher level of productivity with a greatly reduced labour force.



This New Brunswick farm, like most others in the eastern provinces, is a family farm of 100 to 150 acres, producing perhaps dairy products, beef cattle and field crops, and operated with little hired help.

Production, Imports and Exports of Wheat, Years Beginning Aug. 1, 1950-57

NOTE.—Until Aug. 1, 1955, wheat flour was converted into bushels of wheat at the average rate of 196 lb. of flour to 4.5 bu. On Aug. 1, 1955, conversion rate was changed to 100 lb. of flour to 2.3 bu.

Year beginning Aug. 1—	Production	Imports of Wheat and Flour	Exports of Wheat and Flour	Domestic Dis- appearance
	'000 bu.	'000 bu.	'000 bu.	'000 bu.
1950.....	466,490	12	240,961	148,538
1951.....	553,646	18	355,825	169,863
1952.....	701,944	17	385,527	150,427
1953.....	634,007	457	255,081	143,893
1954.....	331,961	178	251,909	162,156
1955.....	519,188	20	309,181	167,201
1956.....	573,062	148	261,797	168,020
1957.....	373,508	—	—	—

The harvest on this Ontario farm is completely mechanized. Blown by a forage harvester into a wagon and drawn to the barn, the grain is carried by a bale elevator to the separator from which the straw is blown into the barn and the grain delivered to the granary.



Marketing of Major Grains.—The Canadian Wheat Board, a Crown corporation in operation for nearly twenty-five years, is the general agency for all wheat, oats and barley produced in Western Canada and sold commercially for interprovincial or export movement. The farmer places his grain in annual marketing pools operated by the Board. He receives an initial payment at the time he delivers the grain at a country elevator or into a railway car and participates on the basis of his grain deliveries in any surplus the Board may subsequently realize on the sale of grain. Through the provision of that initial price guaranteed by the Government of Canada, the Board stands as a buffer between the farmer and the constantly changing conditions of supply, demand and price under which wheat is produced in Western Canada and throughout the world. At the same time, the distribution of participation payments carried out by the Board from time to time helps to steady the flow of income into the agricultural economy and to spread it throughout the year.

The Board, through a delivery quota system, also ensures the equitable use of available grain storage facilities, which is particularly important in times when producers have more grain than the normal storage facilities of the country can handle adequately. The quota is based on a producer's specified acreage, a term which refers to the combined acreage which the producer had seeded to wheat (excluding Durum), oats, barley, rye, cultivated grasses and forage crops or had summerfallowed. At the beginning of the season producers may deliver a minimum quota of bushels per farm unit regardless of the specified farm acreage, and then progressively increasing quotas are established as storage space becomes available.

The Canadian Wheat Board derives its authority from the Government of Canada through the Canadian Wheat Board Act and reports to Parliament through the Minister of Trade and Commerce. Its operations have far-reaching effects on the economy of the whole country and of Western Canada in particular.

Western farmers delivered some 362,000,000 bu. of wheat in 1956-57, compared with 353,000,000 bu. in 1955-56 and the ten-year average of 350,800,000 bu. Exports consisted of 228,300,000 bu. of wheat and the equivalent of 33,500,000 bu. of wheat in the form of flour. The combined exports went to 82 countries and their territories and colonies. Domestic utilization (commercial and farm) of wheat increased slightly from 167,200,000 bu. in 1955-56 to 168,000,000 bu. in 1956-57.

The initial payment set by the Wheat Board was \$1.40 per bu. basis No. 1 Northern, in store Fort William-Port Arthur or Vancouver and the initial payment for No. 1 C.W. Amber Durum was \$1.50 per bu. The 1955-56 pool was closed out in May 1957 with producers averaging about \$1.61 per bu. for No. 1 Northern wheat.

Marketings of oats totalled 69,200,000 bu. during 1956-57 as against 71,600,000 bu. the previous year. About 18,700,000 bu. of oats and oat products were exported in 1956-57, exceeding by a wide margin the 1955-56 total of 4,100,000 bu. The amount of oats used in Canada was placed at 401,900,000 bu. in 1956-57 compared with 368,500,000 bu. in 1955-56. Farmers marketed some 120,600,000 bu. of barley in 1956-57 compared with 114,500,000 bu. marketed in 1955-56 and domestic disappearance amounted to 157,600,000 bu. as against 164,200,000 in 1955-56.

Livestock

Canada is generally thought of as a grain-growing country because of the large crops of wheat and other grains produced in the mid-west primarily for external markets. However, considering the country as a whole, livestock is almost equally important from the point of value to the farmer. The cash income from livestock production amounted to \$736,628,000 in 1956.

There are many areas in Canada in which the raising of livestock is the foundation of the agricultural economy—in the foothills of the Rockies, across northern Alberta and Saskatchewan and southern Manitoba, on the interior plateaux of British Columbia, in the Georgian Bay district of Ontario, in



Prince Edward Island and western Nova Scotia. Beef cattle and hogs are also raised on mixed farms throughout the country as income stabilizers. Canada is traditionally an exporter of livestock products, producing more than the domestic market can utilize. However, during the postwar period exports were low as a result of growing domestic markets and reduced production but in 1957 an exceptional up-swing in cattle-raising in Western Canada greatly increased shipments to the United States. The increase in livestock production resulted from the lack of markets for wheat which encouraged the production of more feed grains, and from a high consumer demand in Canada.

Thus the 8,371,000 cattle and calves on Canadian farms in 1951 increased to 11,019,000 head by 1956, despite the fact that the number of farms carrying cattle decreased from 493,000 to 452,000 in the same period. There were also more hogs on farms in Western Canada, the 1956 Census reporting 2,162,000 head, an increase of 17 p.c. in five years, but decreased holdings in Eastern Canada brought the national total down 4.5 p.c. in the period to 4,733,000 head. Sheep and lambs on western Canadian farms increased 18 p.c. and on eastern farms, 11 p.c. Only horses decreased, the total for the country dropping from 1,307,000 in 1951 to 784,000 in 1956.

As cattle supply kept pace with keen demand during 1956, prices averaged a little lower than in 1955—\$18.80 per cwt. compared with \$19.60 for good steers up to 1,000 lb. at Toronto. Hog prices, however, showed a steady upward trend starting at about \$23.50 for grade A at Toronto and finishing at \$33.00 in December.

Meat production in 1956 totalled about 2,500,000,000 lb., a peacetime record. Consumption of meat by Canadians was also at an all-time high amounting to nearly 2,250,000,000 lb. or more than 150 lb. per person. Indications are that the 1957 output will about equal that of 1956.

Estimated Meat Production and Consumption, 1955 and 1956

Item		1955	1956	1955	1956
		Beef		Veal	
Animals slaughtered.....	No.	2,345,700	2,494,600	1,342,900	1,388,400
Animals exported.....	"	63,586	52,604	4,027	3,913
Meat production ¹	'000 lb.	1,139,078	1,208,384	139,548	145,643
Total domestic disappearance..	"	1,122,158	1,183,590	137,289	143,124
Per capita disappearance.....	lb.	71.9	73.6	8.8	8.9
		Pork		Mutton and Lamb	
Animals slaughtered.....	No.	7,950,600	7,995,100	808,100	786,500
Animals exported.....	"	8,930	1,655	8,874	5,090
Meat production ¹	'000 lb.	1,019,121	1,028,170	34,167	33,348
Total domestic disappearance..	"	903,650	936,758	42,478	44,121
Per capita disappearance.....	lb.	57.9	58.3	2.7	2.7
		Offal		Canned Meat	
Production.....	'000 lb.	94,973	98,552	75,606	81,401
Total domestic disappearance..	"	89,861	91,693	70,706	85,632
Per capita disappearance.....	lb.	5.8	5.7	4.5	5.3

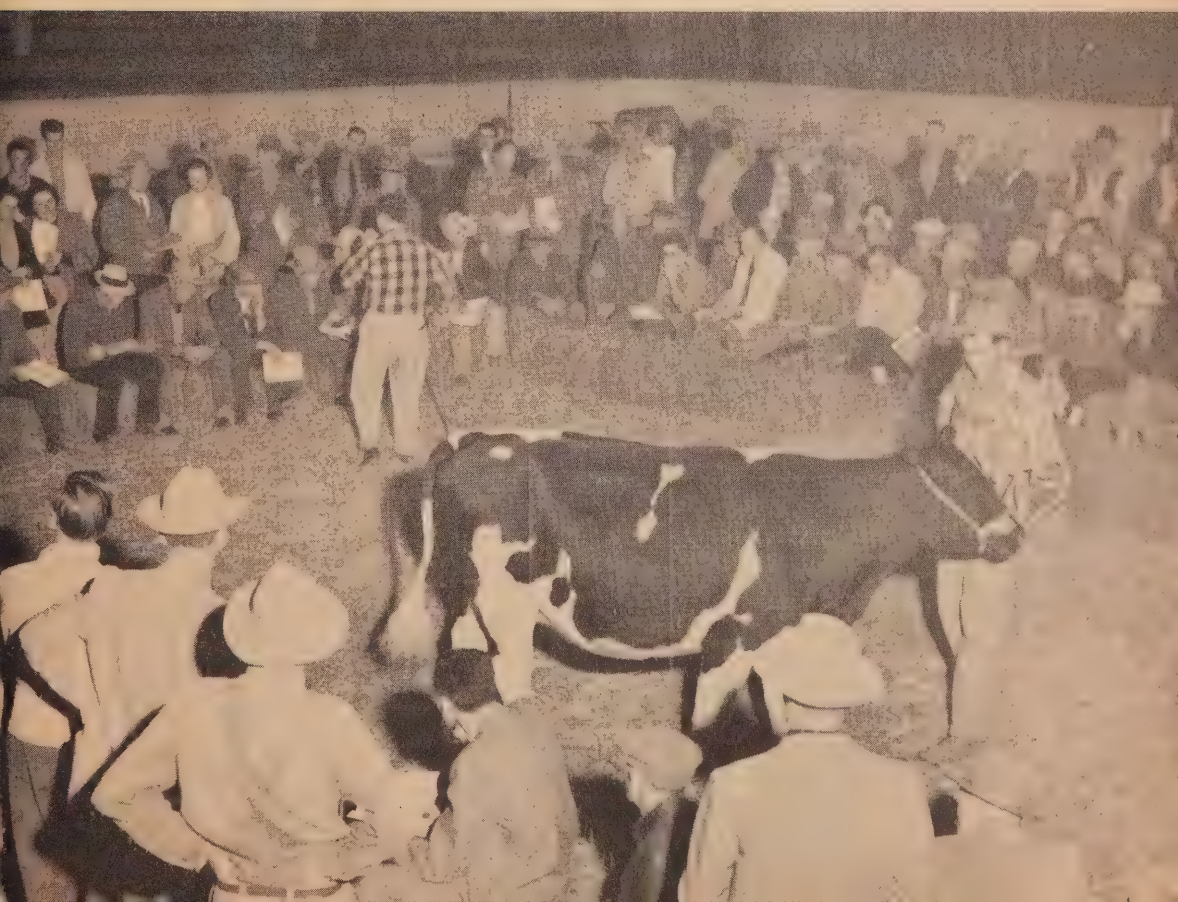
¹ Production from animals slaughtered in Canada, basis cold dressed carcass weight excluding offal and, in the case of pork, fats and offal.

Dairying

Almost 70 p.c. of Canada's 575,000 farms reported having milk cows at the 1956 Census, and dairying is perhaps the most general of all types of farming in the agricultural areas. While small herds of dairy animals on mixed farms are a very lucrative source of cash income, there is a definite trend toward specialization in dairying, particularly near the larger centres of population. The premium paid to the farmer for whole milk sold in these markets as fluid milk or cream is apparently sufficient to warrant high capital investment in accommodation and equipment to maintain milk quality and facilitate handling, an expenditure requiring volume production. Milk from farms less favourably situated is usually shipped to manufacturing plants where butter, cheese and concentrated milk products are produced. Milk production on these farms is almost always one of many operations. Sales of milk and cream from Canadian farms brought the farmers about \$460,000,000 in 1957, almost one-fifth of the total cash income for that year. This peak was reached partly because of higher milk production and partly because of increased prices to the farmer.

Total milk production in 1957 amounted to 17,300,000,000 lb., the highest level on record. About 59 p.c. of it was used for the manufacture of dairy products, 31 p.c. was sold as fluid milk or cream and the remainder was used on the farm. Creamery butter manufacturing used by far the largest portion of milk processed in dairy factories. Cheese and concentrated milk were next, followed by ice cream and miscellaneous types of cheese.

Top price of \$600 was paid for the grand champion of the Manitoba Dairy Cattle Breeders' Association annual show and sale held in the autumn of 1957. The average price received for all animals sold was \$284.



In 1957 almost all the milk, cream and dairy products produced in Canada were consumed domestically. Only small quantities of whole milk powder, evaporated milk and cheddar cheese were exported. Special varieties of cheese make up most of the imports of dairy products.

Dairy Production by Economic Area, 1956 and 1957

Economic Area and Year	Total Milk Production	Milk Used in Fluid Sales	Products Manufactured ¹			
			Butter		Cheddar Cheese	Ice Cream
			Creamery	Dairy		
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 gal.
Maritimes.....1956	1,119,922	356,472	19,799	2,211	1,685	2,428
.....1957	1,097,921	359,425	18,747	2,107	1,805	2,511
Que. and Ont....1956	11,338,954	3,545,562	201,971	2,993	79,468	20,445
.....1957	11,587,391	3,656,915	199,547	2,338	90,002	21,994
Prairies.....1956	3,752,321	913,083	78,692	8,305	3,032	6,556
.....1957	3,829,012	937,953	82,181	7,646	3,137	6,733
B.C.....1956	755,045	418,882	2,852	430	562	3,804
.....1957	773,260	436,954	2,882	444	691	3,877
Totals.....1956	16,966,242	5,233,999	303,314	13,939	84,747	33,233
.....1957	17,287,584	5,391,247	303,357	12,535	95,635	35,115

¹ Not included in this table are: whey butter with a production of 2,117,000 lb. in 1956 and 2,205,000 lb. in 1957, other cheese with 8,968,000 lb. and 9,996,000 lb. respectively, and concentrated milk products with 485,656,000 lb. and 541,160,000 lb., respectively.

Poultry and Eggs

In 1956, census figures disclosed that 64 p.c. of Canadian farmers kept poultry and were raising a record number of fowl—68,000,000 hens and chickens, 4,800,000 turkeys and 747,000 ducks and geese. Poultry and eggs are also a universally common product of the mixed farm, but here too specialization is developing. The poultry meat situation is being dominated by large-scale farms which produce high-quality birds, properly graded, processed and packaged for a discerning market. In 1956, 404,300,000 doz. eggs were marketed, 5 p.c. more than in 1955, and average per capita consumption increased from 23.8 doz. to 24.3 doz. in the year. Poultry meat processed in 1956 totalled 498,359,000 lb.—393,000,000 lb. of fowl and chicken, 98,000,000 lb. of turkey and the remainder goose and duck. Average consumption of poultry meat in 1956 was 31.6 lb. compared with 29.7 lb. in 1955.

Eggs and Poultry Meat Produced, by Province, 1956

Province	Eggs		Poultry Meat	
	Production	Value	Production	Value
	'000 doz.	\$'000	'000 lb.	\$'000
Maritime Provinces.....	33,865	15,764	21,781	10,097
Quebec.....	59,544	27,717	102,014	43,535
Ontario.....	162,641	75,566	192,916	69,719
Prairie Provinces.....	117,193	40,441	139,897	45,337
British Columbia.....	31,068	14,628	41,751	17,666
Totals, 1956.....	404,311	174,116	498,359	186,354
.....1955.....	383,210	157,341	443,169	175,305

Fruit and Vegetables

Commercial fruit-growing is confined almost exclusively to rather limited areas in Nova Scotia, New Brunswick, southern Quebec and Ontario, and British Columbia. In most of these areas fruit is the principal crop and is of paramount importance to the district.

The apple is the most important of the fruit crops, 12,424,000 bu. with a farm value of \$16,048,000 having been produced in 1956. Average prices ranged from 76 cents a bushel in Nova Scotia to \$1.63 in Ontario. Strawberries and raspberries are grown in commercial quantities in all fruit-growing areas but pears, peaches, cherries, plums and prunes are grown only in British Columbia and Ontario. Ontario produces most of the grapes grown in Canada, and apricots and loganberries are exclusive to British Columbia. Blueberries are indigenous to many areas throughout Eastern Canada and are grown commercially in British Columbia.

Farm Values of Fruits Produced, 1953-56, with Averages 1948-52

Fruit	Average 1948-52	1953	1954	1955	1956
	\$'000	\$'000	\$'000	\$'000	\$'000
Apples.....	14,736	17,578	17,965	10,870	16,048
Pears.....	2,065	2,653	2,246	2,579	2,853
Plums and prunes.....	1,096	1,252	1,467	1,068	896
Peaches.....	4,129	5,543	5,208	6,125	4,384
Apricots.....	325	425	293	316	194
Cherries.....	2,463	2,658	3,421	3,503	2,076
Strawberries.....	6,123	6,405	6,870	5,910	4,240
Raspberries.....	2,832	3,661	3,131	2,775	2,320
Grapes.....	2,796	3,496	3,926	3,622	3,293
Loganberries.....	181	197	162	178	53
Blueberries.....	—	3,339	3,409	2,688	2,290
Totals.....	36,746	47,207	48,098	39,634	38,647

A marketing system has been developed for distributing fresh fruit from specialized production areas to all parts of the country. Canning and processing plants in the fruit districts provide a valuable outlet for most fruit crops and considerable quantities of apples, strawberries and blueberries are marketed in the United States.

Everyone lends a hand during the rush of the peach-picking season. In the commercial orchards of Ontario there are nearly 1,300,000 peach trees, over a million of them in the Niagara Peninsula. The fresh-fruit market takes about 40 p.c. of the crop and processors the remainder.





Sugar beets are grown in certain areas of Quebec, Ontario, Manitoba and Alberta and are delivered for refining to nearby processing plants.

Although vegetables are grown for home and local use everywhere across Canada and even as far north as the Yukon, the areas of commercial production, as for fruit-growing, are fairly well defined. A wide variety of crops is grown in southern Ontario which is the main producing area, in Quebec particularly in the Montreal district, and in southern British Columbia. A somewhat smaller

range is produced in the Maritimes and in the Prairie Provinces. Canning, freezing and processing plants operate in the important producing areas.

Government and Agriculture

The Federal Government and each of the provincial governments except Newfoundland now maintains a Department of Agriculture which has the general function of giving the utmost aid and guidance to farmers in almost every field of his operations. The activities of the federal Department, all of which are directed towards the production of marketable farm products and most of which are conducted in co-operation with provincial authorities, include: research and experimentation; protection of animals and crops; irrigation and reclamation; and price stability and farm credit measures.

Research and Experimentation.—Almost every problem of production, marketing and distribution is given intensive study by the federal Department of Agriculture, which maintains a chain of research laboratories and experimental farms across the country. These establishments are located where they can be of most use to local farmers whose regional problems of soil, climate and crops differ widely. In all, there are 32 branch experimental farms, 20 substations, two forest nurseries and 233 illustration stations, the work of which is co-ordinated through the headquarters of the Science Service and the Experimental Farms Service at Ottawa.

Conservation of the soil is of basic importance and methods of protection and retention of soil cover are investigated in collaboration with provincial governments. These studies include soil chemistry, cover crops, manures and fertilizers, and tillage. Much work is also done to discover suitable varieties of crops to be grown under the varying climatic conditions throughout the country. Also the culture and nutritional value of crop plants and even their customer appeal is under continuous study.

Extensive research on livestock diseases and pests and on the care and handling of stock has produced a remarkably high level of health in Canada's livestock and poultry and has produced as well animals more suitable for the market. Research in the processing of dairy products, meat, fruit and

Many of the vegetable seeds used in Canada are produced in the valleys of southern British Columbia and on Vancouver Island where the summers are semi-tropical and the moisture sufficient.



On a sandy strip of land on the north shore of Lake Erie, the tobacco crop brings upwards of \$50,000,000 each year to the pockets of some 4,000 farmers and provides rural and urban employment for thousands more. By the time each crop is sold to the consumer it adds about \$250,000,000 in excise taxes to the federal treasury.



The maple woodlots of the St. Lawrence Valley, of New Brunswick and Nova Scotia have their own glamorous yield. When the spring sun brightens and as the snows depart, the trees are hung with buckets to catch the glistening sap which is transformed into golden syrup or sugar. Maple products provide an extra source of income for the farmers of these areas.



vegetables, is also undertaken to maintain a consistently high level of purity and quality. Storage of agricultural products creates many problems that require constant study. In the field of economic research, studies in farm management, land utilization, marketing and farm family living are undertaken in all parts of the country.

Production and Protection of Crops and Animals.—Safeguarding crops and livestock from disease that might be imported with shipments from abroad is an important part of the Department's work. In addition, extensive testing and research is undertaken to control the spread of disease within the country. Control of tuberculosis and many other contagious diseases in animals is typical of this work. More than 92 p.c. of the cattle in Canada are located in tuberculosis-tested areas and 70 p.c. of the total number are in accredited areas, that is, in areas in which not more than one-half of 1 p.c. of the cattle were found to be infected with tuberculosis at the latest TB test. A somewhat similar plan is in effect for the control of brucellosis.

The promotion of the production of certified and registered seed and purebred livestock is also of great importance. Certification is maintained over registration and distribution. Standards are maintained which are widely accepted in other countries. Another type of activity is the enforcement of laws governing the sale of feeds, fertilizers, pesticides and many other products purchased by farmers.

Irrigation and Land Conservation.—The Federal Government, jointly with the respective provinces, has constructed a number of projects concerned with land utilization and water conservation. Under the Prairie Farm Rehabilitation Act of 1935 financial and other assistance has been provided to combat the problems of drought and soil drifting adversely affecting agriculture in the Canadian prairies. Four major irrigation projects which will assure adequate supplies of water for more than 1,000,000 acres of land, have been or are being constructed in southern Alberta and Saskatchewan. Financial assistance has also been given to individuals for the construction of 52,461 dugouts, small dams or other water conservation projects on their own farms, as well as for 327 community projects. These projects have extended the benefits of water widely throughout the dry areas. In British Columbia many smaller irrigation projects have been constructed in the Okanagan and South Thompson valleys where the land is used mainly for the growing of small fruits and vegetables and for dairying. In addition, several major reclamation projects have been undertaken in Manitoba and Saskatchewan where flood problems exist.

The marshlands of Prince Edward Island, Nova Scotia and New Brunswick are among the more productive soils in Canada when protected from the sea by dykes and breakwaters. The Federal Government and the province concerned are sharing jointly in the work of rebuilding protective structures and rehabilitating these areas.

Price Stability and Farm Credit Measures.—The Canadian Government has enacted a number of financial measures, particularly since 1939, to ensure a greater stability of the farm economy.

Under the Canadian Farm Loan Act, 1927, long-term and short-term mortgages are made available to farmers who qualify. The Farm Improvement Loans Act, 1944, provides funds for equipping, improving and developing



Manitoba has a new agricultural frontier. Dykes and dams block off a 135,000-acre tract of rich alluvial soil near The Pas, protecting it from the waters of the Saskatchewan River. This northern area, with its long hours of sunlight during the growing season, will be ready for full settlement in 1959. The capital cost of the main construction is assumed by the Federal Government and the Province is financing roads and secondary drainage systems.

farms, and from 1945 until the end of 1956, 595,409 loans for almost \$654,000,000 were made.

A number of Federal Acts assist the marketing of produce. The Agricultural Prices Support Act, 1944, allows the Government to stabilize the price of any agricultural product (except wheat, for which separate provision is made) by outright purchase or by supporting the market with guarantees or deficiency payments. This Act has been useful in minimizing seasonal fluctuations in price and in controlling temporary surpluses that might depress prices if allowed to flood the market. The Agricultural Products Marketing Act, 1949, enables the Federal Government to apply provincial marketing legislation to any produce sold outside of a province or the nation. Where drought causes severe crop loss, farmers can obtain compensation through the Prairie Farm Assistance Act, 1939.

For those prairie farmers who cannot deliver all of their grain to market, temporary financial assistance is provided under the Prairie Grain Producers Interim Financing Act, 1956. In the first 18 months of applying this Act, over 22,000 loans exceeding \$18,600,000 were made to farmers through the chartered banks. Late in 1957 the enactment of the Prairie Grain Advance Payments Act permitted the Canadian Wheat Board to make an interest-free advance to farmers against threshed grain stored elsewhere than in an elevator. Repayment is made when grain is delivered to market.

The Minister of Finance has been empowered by the Temporary Wheat Reserves Act, 1955, to pay storage costs on wheat owned by the Canadian Wheat Board when the total exceeds 178,000,000 bu. at the beginning of a crop year.



The Chibougamau district of Quebec, which lies northwest of Lake St. John, has now an annual output of over 50,000,000 lb. of copper, and is shaping up into one of Canada's major copper-producing areas.

Minerals

THE first signs of Canada's vast mineral wealth appeared three hundred years ago with the early exploration of the country—iron, silver and copper and later coal in Nova Scotia, copper north of Lake Superior, coal in Saskatchewan and British Columbia. But it was not until the discovery and development of the great silver and gold, copper, nickel and iron deposits of northern Ontario and the fabulous silver-lead-zinc deposits of the Kootenay district of British Columbia in the late nineteenth century and the early years of the 1900's that the mineral industry began to give promise of its tremendous possibilities. From then on expansion was quite widespread, the list of minerals grew longer and gold was king. But the events that have made the mineral industry the dynamic force it is today—the oil and gas discoveries in the mid-west, the finding and developing of huge deposits of iron ore in Ontario, Quebec and Labrador and of uranium in Saskatchewan and Ontario, the great expansion of production facilities—have taken place mainly within the past ten years. Canada continues to produce more mineral wealth year by year and its resources, channelled largely to increase world prosperity and to help meet the defence requirements of the western nations, have enhanced Canada's stature in the community of nations out of all proportion to its population. Canada rates as the largest producer of nickel and asbestos, the second largest producer of aluminum (from imported ore), gold, cobalt, cadmium, magnesium, platinum and zinc, the third of uranium and the fourth of copper, lead and fluorspar.

In 1957 the value of mineral production was \$2,134,000,000, a new high and the eleventh successive record. This was achieved despite lower prices for such major metals as copper, lead and zinc. Expanded output of crude petroleum and uranium more than counterbalanced losses elsewhere. Crude petroleum, valued at \$445,000,000, continued to be the leading mineral, nickel moved up to second place with \$261,000,000, and copper dropped to third with less than \$200,000,000. Uranium rose \$85,000,000 to reach \$131,000,000.

Canada has barely passed the initial stages in the development of its resources of crude petroleum, natural gas, iron ore and uranium, which are already contributing so much to mineral output. At the same time, resources developed earlier—asbestos in the Eastern Townships of Quebec and nickel in the Sudbury basin of Ontario—continue to display great potentiality for growth.

Perhaps the most notable event in the mining industry in 1957 was the headway made in developing the uranium deposits in the Blind River area of Ontario. Although uranium was first discovered in this area only nine years ago, production from the six mines in operation had an estimated value of \$110,000,000 in 1957. In 1958 Canada's output of uranium is expected to reach \$225,000,000.

Some of the outlets for crude petroleum, particularly those in the United States, became increasingly competitive in 1957 and drilling for oil slowed down considerably during the course of the year. However, with natural gas now flowing through the Westcoast Transmission line from the Peace River

region to the Vancouver area, interior British Columbia and northwestern United States, and with the further substantial progress on the construction of the Trans-Canada pipeline from Alberta to Montreal, markets are being opened up for Canada's huge reserves of natural gas.

During 1957 progress was made in developing the Mystery Lake-Moak Lake nickel deposits in Manitoba and the belt of nickel-bearing rocks in the Ungava area of Quebec was explored. Canada's tremendous undeveloped reserves of iron ore continued to be investigated. Among the industrial minerals, the notable developments of 1957 were in the potash deposits of Saskatchewan and in the sulphur industry.

Metals.—With conflicting and offsetting trends among the major metals in 1957, the total value of production was not quite equal to that of 1956. Largely because of lower prices, the value of output of copper, lead and zinc was down by \$125,000,000, but this decline was counterbalanced by a large increase in the output of uranium and a substantial addition to nickel production.

As stated above, the most outstanding development of 1957 occurred in Canada's youngest metal-mining industry—uranium. At the end of the War, only one area was being developed, that of Great Bear Lake in the Northwest Territories. Since then, development has started in three other areas—Beaverlodge in northern Saskatchewan, Blind River in northern Ontario and Bancroft in southeastern Ontario. In 1957, eight mines with a total mill capacity of 21,150 tons of ore a day came into production and four mines started shipping ore for custom treatment. Among the newcomers was Consolidated Denison in the Blind River area with a 6,000-ton mill, the world's largest uranium mine. It is estimated that, with additional capacity in sight, uranium production will be about \$300,000,000 annually by 1959. In the first 11 months of 1957 exports were valued at about \$110,000,000 compared with \$41,000,000 in the same period of 1956.

The new Quebec-Labrador region is becoming one of the world's major sources of iron ore. In 1957 this remote area produced 12,500,000 tons of ore, more than half the Canadian total. The ore is shipped by rail 360 miles to Sept-Îles on the St. Lawrence and thence by boat and rail mainly to the United States. The way is being prepared for new capacity in this region. Initial output at the rate of 3,000,000 tons annually is expected from the Mount Reed-Mount Wright region in 1961, and a new railway will parallel the Sept-Îles line to Shelter Bay. Huge tonnages of iron-bearing material exist in an almost continuous arc from the west coast of Ungava Bay to the Mistassini area. Several properties are under development in this extensive region and development of others is planned.

Other important producers are Steep Rock Iron Mines Limited and Caland Ore Company Limited in northwestern Ontario, Algoma Ore Properties Limited in northern Ontario and Dominion Wabana Ore Limited in Newfoundland. The three Ontario producers are proceeding with further development of their orebodies, while Wabana recently completed an extensive modernization program. The Hilton Mines started operations early in 1958 on its magnetite deposit near Hull, Que., with an initial rate of output of 600,000 tons of iron concentrate a year. Canada's iron ore output in 1957 was approximately the same as in 1956 but the value was down slightly.

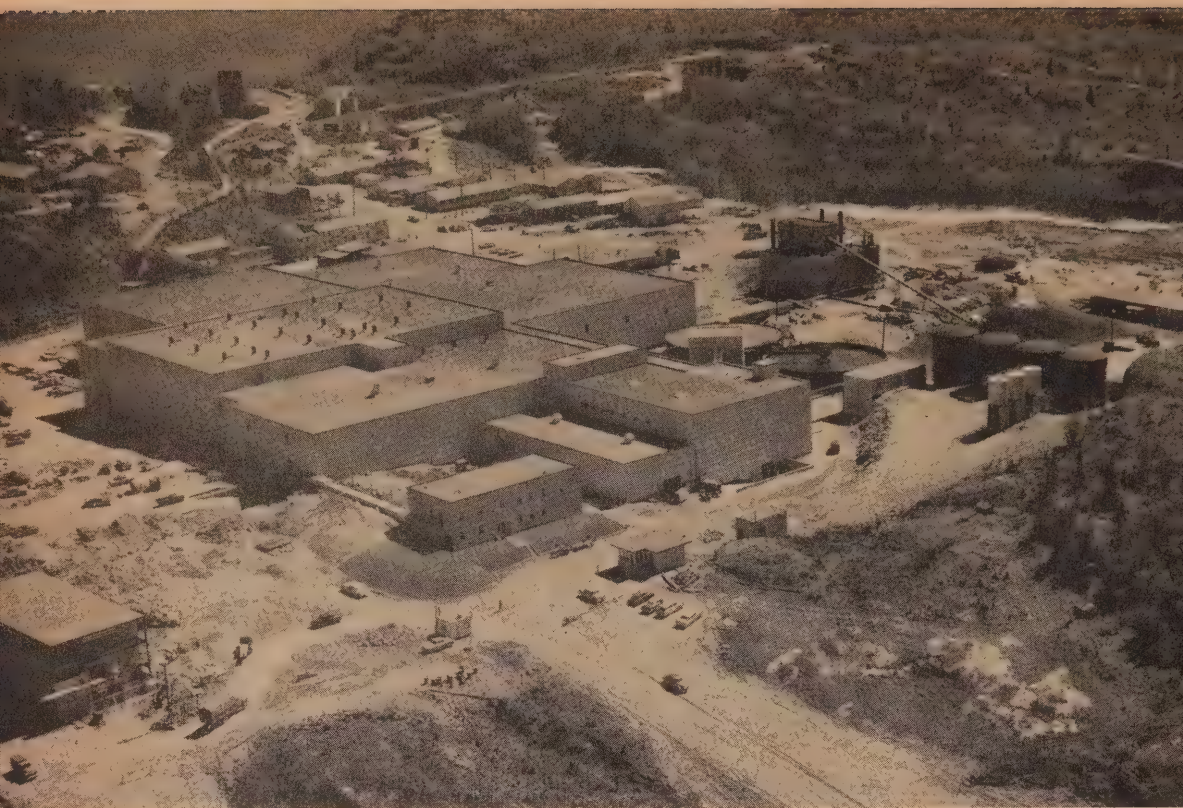


In the Thompson-Moak Lake area of Manitoba, 400 air miles north of Winnipeg, a new \$175,000,000 nickel mining operation is under development. Surface plant construction and underground work are being rushed to maintain schedules that call for nickel production by mid-1960. The program includes a smelter, a mill, a modern townsite for about 8,000 persons, a hydro power plant and ultimately a refinery. Projected production is 75,000,000 lb. of nickel annually.

A 30-mile railway spur completed late in 1957 links the project site at Thompson with the CNR Hudson Bay line and now provides year-round transportation for men, equipment and supplies.



Nickel production and value were at record levels in 1957. Nickel for civilian purposes had been scarce for many years but in 1957 demand and supply were coming into better balance. In fact in the United States, the largest market, there was some accumulation of stocks by the end of the year, but nevertheless the price remained firm. For many years the Sudbury basin was the only source of Canadian nickel, but output is now being augmented from other areas. Sherritt Gordon Mines Limited brought its deposits at Lynn Lake, Man., into production late in 1953; the Company has an annual capacity of 20,000,000 lb. The first nickel mine in the Northwest



Consolidated Denison in the Blind River area of northern Ontario, the world's largest uranium mine where the proven ore reserves are in excess of 136,000,000 tons. Despite the tremendous size of the construction project and the fact that the ore deposits lie some 2,000 feet below the surface, production started less than three years after the ore was found by diamond drilling in 1954.

Territories was brought into production in 1957 at Rankin Inlet on Hudson Bay. But by far the most important addition will come from the Mystery Lake-Moak Lake area in Manitoba, 400 air miles north of Winnipeg. This International Nickel Company development is a full-scale project from which production is scheduled to start in 1960. Its capacity of 75,000,000 lb. a year will bring the Company's annual capacity to 385,000,000 lb.

A number of important copper-producing properties have recently come into production—in the Chibougamau area of western Quebec which is shaping up into one of Canada's leading copper regions, in the Gaspé area of the same Province, in the Manitouwadge area north of Lake Superior in Ontario, as well as smaller producers in Manitoba and British Columbia. However, consumption of copper has failed to keep pace with this expansion in productive capacity and copper prices, having reached a peak early in 1956, began to fall. The deterioration of markets affected production which was down slightly from 1956, but the value of that production was substantially lower. Zinc and lead production also suffered from a slackness in world demand. Output for these metals was about the same as in 1956, but lower prices brought the value down. Canada has two zinc refineries, the Consolidated Mining and Smelting Company of Canada Limited at Trail, B.C., and the Hudson Bay Mining and Smelting Company at Flin

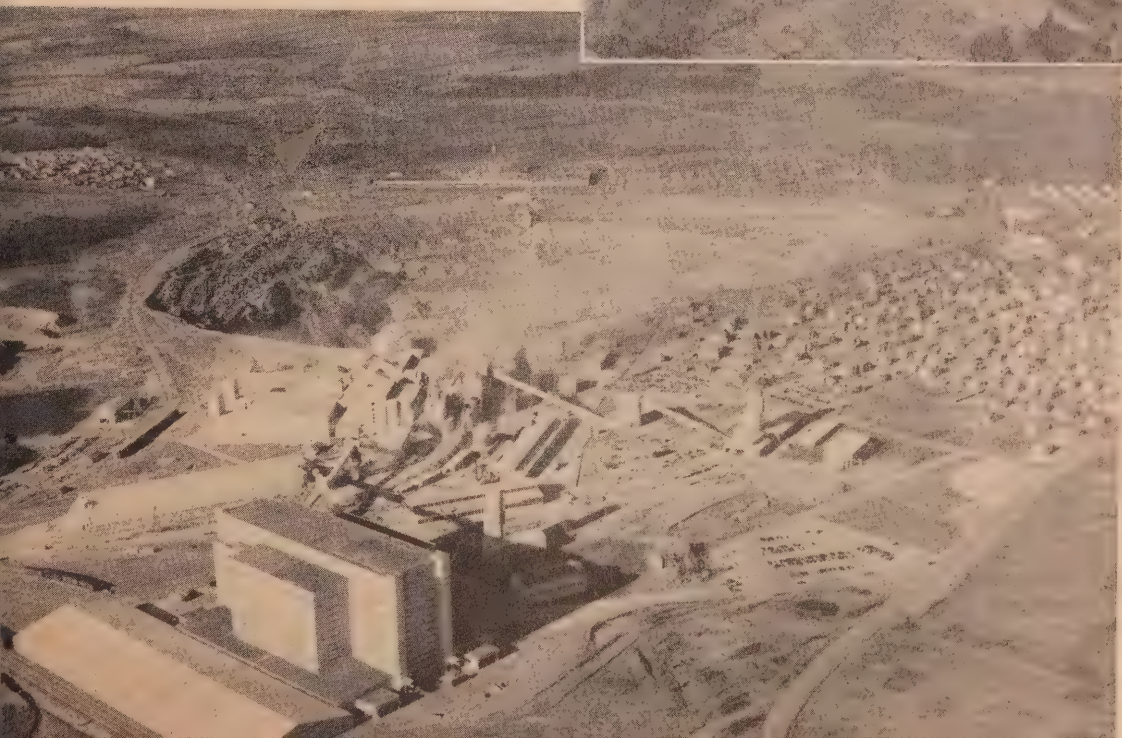
Flon, Man. Most of the lead comes from the Sullivan mine of the Consolidated Mining and Smelting Company which has the only lead refinery in Canada.

Gold production and value in 1957 were little changed from 1956. The gold-mining industry continued to be faced with the problems of a fixed price and the high exchange rate on the Canadian dollar.

Industrial Minerals.—Production records were established for many of Canada's industrial minerals in 1957 and a number of new deposits were opened up. Noteworthy were the developments in the sulphur industry and in the extensive potash fields of southern Saskatchewan. However, asbestos is by far the most important of Canada's industrial minerals, having an output valued at over \$106,000,000 in 1957. The greater portion of this output comes from the Eastern Townships of Quebec, where new mines and the expansion of older producing plants have already doubled production since the end of the War. The expansion program, when completed, will increase Canada's asbestos-producing capacity to 59,700 tons a day. Over 90 p.c. of output is exported, mostly to the United States. Demand and supply were in fairly good balance in 1957, with a slight over-supply in some grades.

Although one of the most highly mechanized of all mining industries, asbestos mining still relies on ancient skills. Premium crude fibre must be extracted by hand to avoid damage to the delicate strands.

The Canadian asbestos industry has more than doubled its capacity during the past ten years and new mills and extensions under construction continue the growing process. This new mill at Asbestos in Quebec, already the largest in the world, is being increased by one-third to a capacity of 825,000 tons annually.





Canada's mineral industries were on display during September 1957 when representatives of thirty-two countries — delegates to the Sixth Commonwealth Mining and Metallurgical Congress — visited every major mineral-producing area across the country to gain first-hand knowledge of mining practices and metallurgical treatment techniques.

Canada's cement-producing capacity has increased threefold since the War, the addition of 5,000,000 bbl. in 1957 raising the total to 42,000,000 bbl. a year. This addition came from two new plants, one at Picton in Ontario and one at Vancouver, B.C., and from enlargement of existing plants.

Pyrite and pyrrhotite, together with smelter gases, have been the main sources of sulphuric acid and sulphur dioxide in Canada and are accounting for increasing quantities of sulphur products. However, the development of natural gas resources of Western Canada is bringing into being a new source of elemental sulphur which in the near future will supply a large part of the Canadian market. Some of the largest gas fields of Western Canada contain 'sour' gas with a high content of hydrogen sulphide which must be removed from the gas before it is fed into the transmission lines. In this process elemental sulphur is obtained. During the past two years, two sulphur-recovery plants have been built in Alberta and one in British Columbia, together having an initial capacity of about 780 long tons a day. If present gas transmission plans are carried out, it is possible that 1,000,000 tons of sulphur will be produced annually from natural gas by 1961. At present Canadian industry imports more than half of its requirements.

The potash deposits of southern Saskatchewan, discovered in the early 1940's in the course of exploratory drilling for oil, are among the largest in the world and are of excellent quality. In 1957, 17 companies held land in two potash belts and two of them were sinking shafts and building surface plants. By 1959 Canada will have become a major producer of potash.

Lime producers had their best year in 1957 with output valued at \$16,500,000. A new and growing use for lime is in the processing of uranium

ores. When all the uranium mills in the Blind River area are in full production they will require an estimated 600 tons of lime a day. Facilities are being enlarged to meet this demand.

Salt production also reached a record level in 1957. Production and exports of this mineral have risen rapidly since 1954, with three new mines either in operation or being developed.

Fuels.—Crude petroleum continues to be, by a very wide margin, the largest single contributor to the value of Canadian mineral output. Production reached a record 182,000,000 bbl. in 1957, with a value of \$445,000,000. Difficulties in marketing developed during the course of the year and the advance in output was small by comparison with the spectacular gains recorded every year since the Leduc discoveries of 1947.

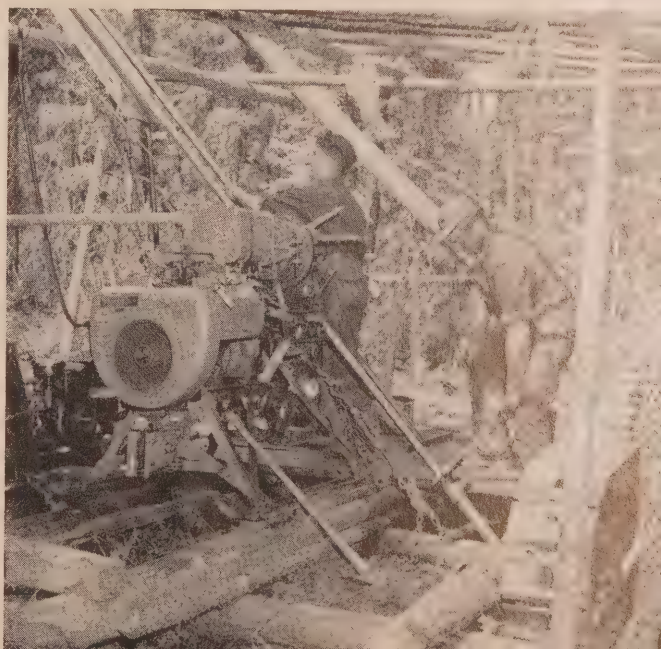
In Alberta output fell to 137,000,000 bbl. from the 144,000,000 bbl. in 1956. At the end of the year Alberta's potential daily output was placed at 800,000 bbl. daily, slightly more than Canadian daily consumption, but actual output did not exceed 450,000 bbl. and at times was well below that level. Though prospecting and development were less active, exciting new discoveries were made, the most important being in the Swan Hills area in the northwestern section of the Province.

The year 1957 was one of rapid development of proven acreage in Saskatchewan, with development largely concentrated in the Steelman-Kingsford field in the southeastern part of the Province. Output rose from 21,000,000 bbl. in 1956 to 37,000,000 bbl. in 1957, raising Saskatchewan's share of the Canadian total from 12 to 20 p.c. Production continued to rise in Manitoba and in British Columbia, where the first oil field was developed in 1956.

As a result of recent discoveries, Canada now has proven reserves of 3,500,000,000 bbl. of oil. Immediate marketing uncertainties caused a decline in drilling activity in the second half of 1957, and well-completions in Western Canada were about 10 p.c. below the all-time record of 3,359 wells set in 1956.

The construction of gas pipelines to distribute Canada's rapidly mounting reserves of natural gas got under way comparatively recently. The year 1957 marked the completion of the first line—the 650-mile Westcoast Transmission

Diamond drilling in northern Saskatchewan. The mining industry continues to build for the future, searching out the minerals essential to the development of industry throughout the world and to the maintenance of the giant industrial machines now in existence.

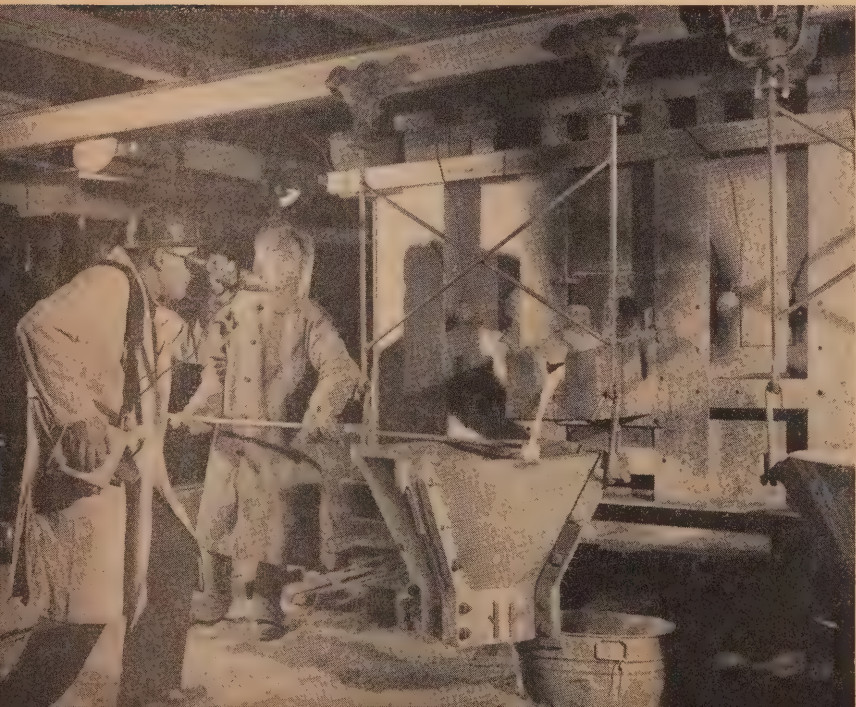


line, running from the Peace River region to Vancouver and the international border, and by the end of the year 60 p.c. of the Trans-Canada line, which will carry natural gas from Alberta to Montreal, was set in the ground. In all, over 2,000 miles of natural gas gathering and main transmission lines were constructed in 1957 and, in addition, hundreds of miles of distribution lines were laid in cities and towns. Thus 1957 was Canada's greatest pipeline construction year.

The coal industry continues to face increasing competition from other fuels, and shipments were down slightly in 1957. Of interest is the Federal Government's proposal to grant a subvention of \$200,000 a year on local coal used for the production of power in the Atlantic Provinces. This subvention would eliminate, as far as possible, the differential in price between coal used in the Atlantic area and coal used in Ontario for the production of power.

Mineral Production, by Province, 1956 and 1957

Province or Territory	1956		1957 ^D	
	Value	P.C. of Total	Value	P.C. of Total
	\$		\$	
Newfoundland.....	84,349,006	4.0	76,244,758	3.6
Nova Scotia.....	66,092,274	3.2	65,434,475	3.1
New Brunswick.....	18,258,302	0.9	23,249,559	1.1
Quebec.....	422,464,410	20.3	384,465,152	18.0
Ontario.....	650,823,362	31.2	739,219,218	34.6
Manitoba.....	67,909,407	3.3	61,299,092	2.9
Saskatchewan.....	122,744,698	5.9	161,487,032	7.6
Alberta.....	411,171,898	19.7	411,960,822	19.3
British Columbia.....	203,277,828	9.7	174,763,908	8.2
Northwest Territories.....	22,157,935	1.1	21,965,933	1.0
Yukon Territory.....	15,656,434	0.7	13,851,138	0.6
Totals.....	2,084,905,554	100.0	2,133,941,087	100.0



Smelting nickel concentrates on pilot-plant scale at the Mines Branch Laboratories at Ottawa. These Laboratories provide a research centre for the mining and metallurgical industry of Canada.

Quantities and Values of Minerals Produced, 1956 and 1957

Mineral	1956		1957 P	
	Quantity	Value	Quantity	Value
		\$		\$
Antimony..... lb.	2,140,432	687,527	1,411,000	353,697
Bismuth..... "	285,861	544,900	276,791	536,599
Cadmium..... "	2,339,421	3,977,016	2,340,015	3,978,025
Calcium..... "	394,900	515,305	66,341	83,589
Cobalt..... "	3,516,670	9,065,493	3,736,178	8,081,226
Copper..... "	709,720,590	292,958,091	692,053,656	199,543,377
Gold..... oz. t.	4,383,863	151,024,080	4,436,101	148,786,827
Indium..... "	363,192	795,390	385,000	847,000
Iron ore..... ton	22,348,278	160,362,118	22,386,993	155,549,111
Iron (re-melt)..... "	159,874	7,996,897	186,700	6,148,090
Lead..... lb.	377,708,904	58,582,651	375,819,451	52,464,395
Magnesium..... "	19,212,298	6,079,890	16,193,467	5,269,656
Manganese..... ton	—	1,900	—	—
Molybdenum..... lb.	1,403,772	955,828	874,600	1,145,726
Nickel..... "	357,030,311	222,204,860	376,265,731	261,253,209
Palladium, iridium, etc..... oz. t.	163,451	6,681,098	213,285	7,726,930
Platinum..... "	151,357	15,725,992	196,077	17,490,000
Selenium..... lb.	330,389	4,460,252	352,871	3,763,500
Silver..... oz. t.	28,431,847	25,497,681	30,138,447	26,319,907
Tellurium..... lb.	7,867	13,767	34,503	63,981
Tin..... "	756,934	670,441	809,000	764,505
Titanium ore..... ton	2,310	16,561	10,485	54,638
Tungsten..... lb.	2,271,437	6,362,368	1,992,840	5,579,952
Uranium..... "	4,561,060	45,732,145	12,875,799	130,911,234
Zinc..... "	845,265,125	125,437,344	824,617,875	99,696,301
TOTALS, METALLICS.....	—	1,146,349,595	—	1,136,411,385
Arsenious oxide..... lb.	1,790,381	77,612	3,385,368	111,717
Asbestos..... ton	1,014,249	99,859,969	1,061,419	106,395,200
Barite..... "	320,835	3,031,034	216,325	2,461,538
Diatomite..... "	2	40	168	3,360
Feldspar..... "	18,153	364,849	20,567	390,804
Fluorspar..... "	140,071	3,407,582	68,463	1,798,308
Gypsum..... "	4,895,811	7,260,236	4,500,664	6,256,349
Iron oxide..... "	8,803	186,225	7,700	182,500
Lithia..... lb.	4,789,360	2,643,950	5,373,000	2,955,150
Magnesitic dolomite and brucite..... ton	—	2,783,181	—	2,695,190
Mica..... lb.	1,843,811	95,666	1,427,418	95,798
Mineral water..... gal.	292,526	149,867	302,000	151,700
Nepheline syenite..... ton	180,006	2,574,140	202,942	2,716,954
Peat moss..... "	128,054	4,240,714	132,535	4,304,694
Pyrite, pyrrhotite..... "	1,046,740	4,538,785	1,239,606	5,018,610
Quartz..... "	2,142,234	3,036,543	2,114,134	3,052,803
Salt..... "	1,590,804	12,144,476	1,760,042	15,074,050
Silica brick..... M	5,799	736,817	4,288	646,038
Soapstone and talc..... ton	29,326	365,226	33,053	433,401
Sodium sulphate..... "	181,053	2,838,186	157,653	2,554,300
Sulphur in smelter gas..... "	236,088	2,323,590	246,337	2,463,370
Titanium dioxide..... "	157,374	7,682,911	185,500	7,528,000
TOTALS, NON-METALLICS.....	—	160,341,599	—	167,289,834
Coal..... ton	14,915,610	95,349,763	13,183,175	89,892,750
Natural gas..... M cu. ft.	169,152,586	16,849,556	206,213,624	20,822,797
Petroleum, crude..... bbl.	171,981,413	406,561,872	181,562,934	444,784,570
TOTALS, FUELS.....	—	518,761,191	—	555,500,117
Clay products..... "	—	37,784,980	—	34,697,605
Cement..... ton	5,021,683	75,233,321	6,056,038	93,764,545
Lime..... "	1,295,699	15,667,598	1,379,871	16,563,493
Sand and gravel..... "	148,801,268	81,957,352	145,191,462	84,051,708
Stone..... "	33,257,318	48,809,918	32,799,202	45,662,400
TOTALS, STRUCTURAL MATERIALS.....	—	259,453,169	—	274,739,751
Grand Totals.....	—	2,084,905,554	—	2,133,941,087



Great as has been the contribution of Canada's widespread forests to the well-being and development of the country, their potential capacity to supply raw materials for human needs has not yet been fully realized. With continual vigilance over their conservation, protection and utilization and the development and application of new forestry knowledge, they will yield greater and greater benefits and do so in perpetuity.

Forestry

WOOD is one of the first natural resources that man learned to use for his own needs, for warmth and shelter, for transport on land and sea. Though the date of man's first use of this material is lost in the ages, wood has never been displaced as humanity's most valuable servant. Instead, thousands of new uses have been found for it and old uses have been continually improved. In this day when industrial stature is measured in output of steel, coal, petroleum and natural gas, Canada's great forests are an even more important asset than they were a century ago. They lie in a broad band across the country from Atlantic to Pacific, changing in character from south to north and on the Pacific Coast, but only disappearing completely in the grassland areas of the mid-western prairies and in the barrens of the north.

The productive portion of these forests has poured increasing wealth into the stream of national income throughout the years. Today more than 372,000 persons, earning over \$1,200,000,000 annually, are directly dependent on the forest industries for their livelihood and the products of their labours are commonplace to modern life. In addition, on the way to the consumer these products give employment to armies of workers in other industries—in manufacturing plants, in chemical and hydro power plants, and in transportation services and research laboratories. The products of the forest account for almost one-fifth of the value of all manufactured products in Canada, and provide as well much-needed foreign exchange to offset expensive purchases abroad. The value of exports of wood, wood products and paper amounted to \$1,515,000,000 in 1956, over one and a half times the value of exports of the next important group of industries.

The country's forested area is estimated at 1,665,000 sq. miles, and a little over half of that area is capable of producing merchantable timber. Of this productive area, 635,000 sq. miles are now accessible for commercial operations and the remainder, at present beyond the reach of transportation facilities, contains much valuable timber that will be brought progressively into commercial development as demand requires its use and as transportation becomes available. The great areas of forest considered commercially non-productive are nevertheless of significant value to the country, providing as they do valuable protection for drainage basins and shelter for game and fur-bearing animals.

Of the productive forests, 61 p.c. is comprised of softwood types, 21 p.c. of mixedwood and 9 p.c. hardwood, the remainder being unclassified. There are more than 150 tree species in these forests, 31 of which are conifers. The vast bulk of Canada's forests—about 95 p.c.—is still in the possession of the Crown, in the right of either the federal or the provincial governments. Only 5 p.c. is owned by individuals or corporations. The provincial governments administer the Crown land within their boundaries except for National Parks and other areas which are under the jurisdiction of the Federal Government. The latter also administers the forests in the nearly 1,500,000 sq. miles of land area in the Yukon and Northwest Territories.

Rights to cut Crown timber under lease or licence have been granted on 32 p.c. of the total accessible productive forest land. The accessible



Natural regrowth in the forests is abundant and adequate to replace the cut, but nevertheless nature is being given a hand by managed harvesting and by planting. Patch cutting permits more rapid natural re-seeding in British Columbia. There, more than 90 p.c. of the sulphate pulp production comes from sawmill residue, salvage wood and logs too small for manufacturing lumber.

productive forest land is estimated to contain approximately 367,560,000,000 cu. feet of merchantable timber. The average annual forest utilization for the past five years has been 3,200,000,000 cu. feet which, together with fire losses, represents an increasing rate of depletion. Although natural forest growth in Canada is generally prolific, orderly management of all productive forests is a necessity, particularly since valuable species are often replaced by less desirable trees. The awareness of this need has prompted governments and industry alike to devote a great deal of attention to better management practices and better utilization of the products of the forest—governments through legislation and administration, inventory taking, research, reforestation and fire protection; and industry through the adoption of sound forestry practices on their holdings, as well as close utilization, fire protection and reforestation. Even the owners of small private woodlots, from which substantial quantities of pulpwood are obtained, have shown their concern by the establishment of a Canadian Tree Farm Movement. There is now a much more efficient utilization of timber cut. The



manufacture of rayon and cellulose products, plastic-wood products, fibre board, laminated wood and wood particle products is permitting the use of inferior classes of wood. Utilization of tops, slabs for chips, and even sawdust is eliminating much waste. The control of diseases and pests, and the fostering of forest growth are giving new meaning to forest conservation.

New forestry knowledge is continuously being developed and applied, making Canada's woodlands more productive, for the welfare of every Canadian depends on the well-being of this great renewable resource.

Forest Industries

The forest industries of Canada are classified as woods operations, the lumber industry, the pulp and paper industry and the wood-using and paper-using industries, the latter groups using partially manufactured wood, pulp or paper as their raw materials.

Woods Operations.—Logging and pulpwood operations in the woods are thoroughly modern industrial undertakings, harvesting methods varying with the terrain and the character of the forest. Owing to the size of the trees, woodwork west of the Rockies has been completely mechanized for some time, but it is only within recent years that operations in eastern forests have undergone a transformation. Now, here too, operations are conducted mechanically rather than, as before, by strong arms, strong backs and strong horses. First-class roads and radio and telephone communications have reduced the feeling of isolation. Logging is becoming less seasonal in nature and because woodlands are being harvested on the basis of perpetual yield, permanent forest

Scrap wood from the sawmill is chipped for use in the pulpmill.



A commercial plantation of fast-growing hybrid poplar.



The Tree Farm Movement assists in the management of private woodlots.

communities have been built and living conditions for woodworkers greatly improved. During the logging season in 1955, woods operations gave employment amounting to 149,300 man-years and distributed \$506,000,000 in wages and salaries.

The output of Canada's forests in 1955 amounted to 3,280,070,000 cu. feet valued at \$829,572,714. Estimates for 1956 indicate an increase of about 150,000,000 cu. feet over the 1955 figure. This is the raw material for the sawmills, pulpmills, veneer mills, wood distillation, excelsior and other plants as well as the logs, pulpwood, bolts, fuel, poles, railway ties, fence rails and posts, mining timber and other primary products for export. Minor products include Christmas trees, cascara bark, balsam gum, resin, etc. Over 94 p.c. of the timber cut in 1955 was processed to some degree in Canada.

Logs and bolts are the most important of the primary forest products and head the list of such products by value in British Columbia, Alberta, Nova Scotia and the Territories. Pulpwood is most important in the other provinces, except in Saskatchewan where fuelwood comes first.

Lumber.—The lumber industry in Canada is particularly dependent upon the general economic condition of the country and on the state of foreign markets, and the effects of heavy or declining demand are more noticeable in British Columbia than elsewhere in Canada because well over 60 p.c. of the sawn lumber production comes from that Province and because lumbering forms a large proportion of the industrial activity there.

For the first time in the postwar period, the Canadian lumber industry encountered some recessive trends in 1956 which became more marked in 1957. A decline in housing reduced domestic lumber demand and at the same time the drop in exports over the two years 1956 and 1957 was close to one billion board feet as compared with the 1955 record export figure. While there is little prospect of an early upswing in exports, house construction should increase the home market in 1958.

Canadian sawmills vary greatly in size and in product. Some, particularly in British Columbia, are capable of cutting up to half a million feet board measure in a single shift. Others are small enterprises turning out one or two thousand feet a day. Spruce continues to lead Douglas fir in quantity cut but the position is reversed when market values are computed. These varieties are closely followed, in volume, by hemlock, cedar, white pine and jack pine, balsam fir, yellow birch and tamarack.

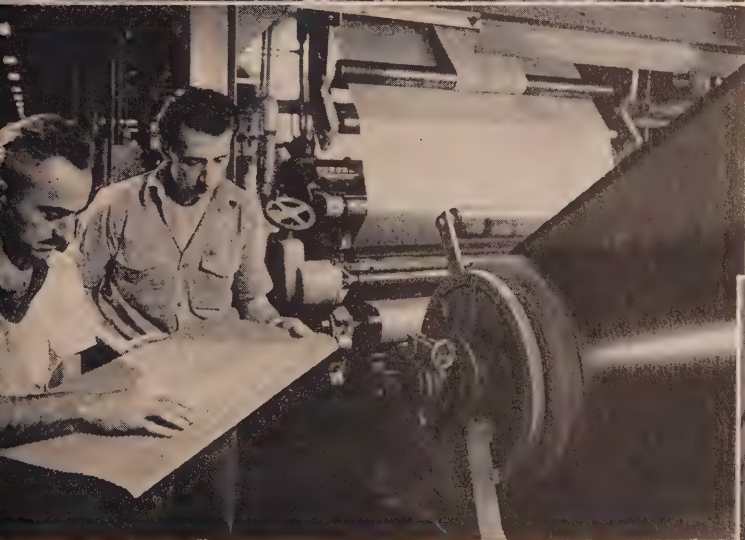
There were 7,333 active sawmills of all kinds in Canada in 1955 with over 58,500 employees who earned \$152,600,000 in salaries and wages. The industry consumed logs, bolts and other materials in 1955 worth \$338,870,000 and produced 7,920 million feet b.m. of lumber with a gross value of \$542,000,000. About 58 p.c. of this production was exported at a value of over \$386,000,000.

Pulp and Paper.—The manufacture of pulp and paper has been Canada's leading industry for many years and the postwar development of this industry has more than kept pace with the vast industrial growth of the nation. Pulp and paper stands first among all industries in value of production, in exports, in total wages paid and in capital invested. It is the largest consumer of electric energy and the largest industrial buyer of goods and services in the land. The industry has a newsprint output about four times that of any other country and provides over 50 p.c. of the world's newsprint needs.

From Forest to Package—a fully integrated organization conducts all the operations from logging to finished paper boxes of all kinds.



This mill at Bathurst utilizes the forests of New Brunswick to produce kraft paper which is shipped to company mills in Quebec and Ontario for the manufacture of industrial paperboards.



A superior quality of corrugating material, based on the use of hardwoods, goes into the making of shipping containers. Continual research and expenditure keeps the company abreast of customer demands for more efficient, more attractive and higher quality packaging.





Life has changed for the woodworker. Work is full-time rather than seasonal. Power saws and equipment have increased his production. Good roads and radio and telephone communications have reduced his isolation and he is better housed and fed than he might be elsewhere. Where possible, permanent forest communities are being developed which permit him to lead a normal family life.

Canada is one of the world's greatest woodpulp exporters and stands second only to the United States as a producer of pulp. Thus, this Canadian industry, with 80 p.c. of its output moving abroad, ranks as one of the major industrial enterprises of the world.

The industry includes three forms of industrial activity—operations in the woods with pulpwood as a product, the manufacture of pulp, and the manufacture of paper. In 1956 there were 31 mills making pulp only, 25 were making paper only and 70 were combined pulp and paper mills, some of the latter being completely integrated establishments conducting all operations from cutting to the final product of newsprint, wrapping paper, fine papers, tissues, cartons, paperboard or other wood fibre, and cellulose products. These are the latest figures available, but since that time new capacity has been added and by the end of 1957 the industry had attained the position it had been struggling to reach—the position of having sufficient capacity to meet present and foreseeable demands for its products. All provinces except Saskatchewan and Prince Edward Island now share in the pulp and paper wealth of the country.

Newsprint is the top product, forming 76 p.c. of the total volume of paper and 96 p.c. of the amount of paper and paper goods exported in 1956. Quebec and Ontario together accounted for 75 p.c. of newsprint production. It is estimated that the 1956 output of 6,445,110 tons declined to 6,400,000 tons in 1957.

**Principal Statistics of the Pulp and Paper Industry, 1930, 1940,
1955, and 1956**

Item	1930	1940	1955	1956
Establishments.....No.	109	103	125	126
Employees....."	33,207	34,719	62,205	65,985
Salaries and wages.....\$	45,774,976	56,073,812	265,298,119	297,571,944
Gross value of factory shipments.....\$	215,674,246	298,034,843	1,326,938,138	1,453,441,726
Value added by manufacture.....\$	107,523,731	158,230,575	689,818,173	736,346,393
Pulp produced.....tons	3,619,345	5,290,762	10,150,547	10,733,744
Paper produced.....\$	112,355,872	149,005,267	693,402,831	706,232,534
Pulp exported.....tons	2,926,787	4,319,414	8,000,213	8,466,785
Paper exported.....\$	173,305,874	225,836,809	981,439,247	1,070,492,355
Pulp exported.....tons	760,220	1,068,516	2,366,133	2,374,013
Newsprint exported.....\$	39,059,979	60,930,149	297,304,069	304,536,497
Newsprint exported.....tons	2,332,510	3,242,789	5,763,167	5,967,194
	133,370,932	151,360,196	665,876,987	708,384,822

Wood-Using Industries.—This group includes thirteen industries, other than sawmills and pulpmills, using wood as their principal raw material. In 1955, these industries, comprising 4,471 establishments, gave employment to 75,087 persons and paid out \$201,883,078 in salaries and wages. The gross selling value of their products was \$730,860,564 and the net value \$334,917,793. The furniture industry (which includes metal furniture as well) accounted for \$261,551,101 of the total output, the sash, door and planing mills industry for \$238,281,804, the veneer and plywood industry for \$116,204,035, and the hardwood flooring industry for \$18,318,832. The other industries making up the remaining \$96,504,792 included: boxes, baskets and crates; wood-turning; morticians' goods; cooperage; woodenware; lasts, trees and wooden shoe-findings; beekeepers' and poultrymen's supplies; excelsior, etc.

Paper-Using Industries.—Three industries engaged primarily in manufacturing commodities of paper and paperboard constitute this group, which in 1955 comprised 455 establishments, employed 27,545 persons and distributed \$84,478,930 in salaries and wages. The gross value of factory shipments was \$427,160,367 and the net value \$177,443,414. The paper box and bag industry contributed products valued at \$213,459,941 to the total output, the roofing paper industry \$41,754,735, and the miscellaneous paper goods industry \$171,945,691.

The Pulp and Paper Research Institute of Canada is recognized as one of the chief centres of world knowledge on wood, on pulp, and on paper.





A look at Canada's growing economy shows why the electric power industry, keenly aware of its paramount role, is thinking ahead—expanding its capacity to produce and transmit electricity for countless needs.

Water Power

THE water power resources of Canada, although only partly utilized, have been a major factor in the country's economic development—the growth of industrial operations has been largely dependent upon and therefore coincident with the growth of water power production.

Canada's total installed hydro-electric capacity of nearly 20,000,000 h.p. is higher than that of any other country with the exception of the United States. On a per capita basis, Norway comes first with about 1.9 h.p. and Canada second with nearly 1.2 h.p. It is interesting to note, however, that the per capita installation of Quebec equals that of Norway and the figure for British Columbia, at about 2.1 h.p., is higher. Although there is an increasing need for alternative sources of economic power in some parts of the country, other regions are making rapid progress in the development of available water power sites.

The following table gives the total power potential of all currently tabulated water power sites in Canada together with the installed capacity of all existing water power developments as of Jan. 1, 1958. The total resources under the condition of "ordinary six-month flow" are estimated at 64,098,500 h.p.; however, as it is usual practice to install turbines having a total capacity in excess of the power equivalent of the six-month flow, the currently recorded water power resources of Canada will permit the installation of capacity considerably greater than this amount.

Available and Developed Water Power, by Province, Jan. 1, 1958

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
	h.p.	h.p.	h.p.
Newfoundland.....	1,608,000	3,264,000	337,970
Prince Edward Island.....	500	3,000	1,882
Nova Scotia.....	30,500	177,500	181,958
New Brunswick.....	123,000	334,000	209,130
Quebec.....	10,896,000	20,445,000	8,979,857
Ontario.....	5,496,000	7,701,000	5,824,766
Manitoba.....	3,496,000	5,793,000	803,900
Saskatchewan.....	550,000	1,120,000	109,835
Alberta.....	911,000	2,453,000	308,010
British Columbia.....	16,400,000	17,300,000	3,122,460
Yukon Territory.....	4,678,000	4,700,000	23,190
Northwest Territories.....	374,000	808,000	13,050
Canada.....	44,563,000	64,098,500	19,916,008

Canadians continue to demand more and more electric power to run mines, mills and factories, to power farm machinery and home appliances, and to light homes, offices and streets across the country. To meet these increasing needs, the hydro-electric industry is in the midst of a vigorous expansion program. Construction of hydro-electric and thermal plants progressed during 1957 and power producers were kept busy planning future developments

to meet anticipated demand in the years ahead. New hydro-electric capacity added during the year amounted to 1,501,560 h.p., which was the second highest annual increase to date. Besides the plants and additions under construction, which will add a further 4,000,000 h.p. within the next few years, several important power sites are under investigation. The total installed capacity in Canada is still less than 30 p.c. of the country's recorded resources.

Atlantic Provinces.—On the Island of Newfoundland, in Nova Scotia and in New Brunswick precipitation is fairly heavy and the rivers, though not large, afford numerous possibilities for power developments of moderate size. In these provinces a considerable number of the more favourable sites have been developed. In Labrador, the Hamilton River, flowing eastward to the Atlantic, has a high power potential and is possibly the largest undeveloped source of power in Canada.

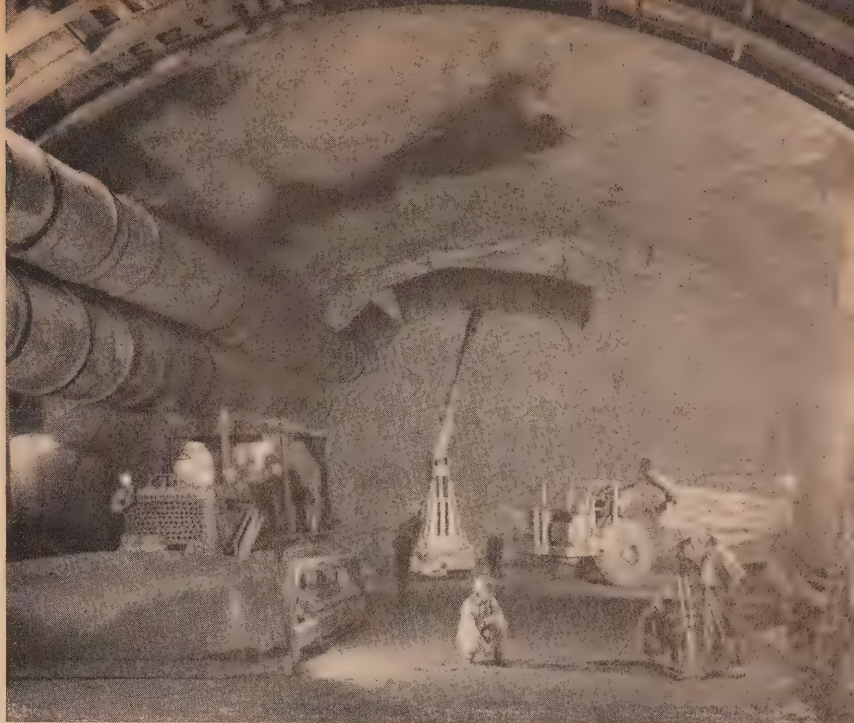
In Newfoundland, two installations totalling 1,220 h.p. were completed during 1957 on Venams Brook and Snooks Arm at Green Bay by the Maritime Mining Corporation Limited. The Nova Scotia Power Commission completed its 5,300-h.p. plant at Bear River in Annapolis County. The New Brunswick Electric Power Commission commenced operation of the first 45,000-h.p. unit at its Beechwood Development on the St. John River and a similar unit is scheduled for operation early in 1958.

Quebec.—Quebec, the richest of Canada's provinces in water power resources, has sufficient reserves of undeveloped power to meet its foreseeable needs for some years to come. Its present installation approaching 9,000,000 h.p. is about 45 p.c. of the total for Canada. Power production is greatly facilitated by the regulation of stream flow by the Province's Department of Hydraulic Resources through the storage dams it operates or controls.

The Province continued to extend its hydro-electric power facilities during 1957 with a net capacity increase of 473,900 h.p. after allowing for the dismantling of 10,100 h.p. of capacity. The Quebec Hydro-Electric Commission completed the installation of the fourth and fifth 150,000-h.p. units in its Bersimis I development on the Bersimis River where the ultimate capacity of the underground powerhouse will be 1,200,000 h.p. At Bersimis II, about 23 miles downstream, an 855,000-h.p. development is in the early stages of construction. Just west of Montreal at Beauharnois on the St. Lawrence River construction of the third and final section of the Commission's powerhouse moved ahead, and completion of the entire plant, with a total installed capacity of 2,235,000 h.p., is expected in 1960.

Price Brothers Company Limited started operation of its 82,000-h.p. Murdock-Willson development at the mouth of the Shipshaw River. This development replaces the former 10,100-h.p. Murdock plant on the same River, which will be abandoned. At its McCormick Dam Project No. 2, which is an extension of the Manicouagan River plant near Baie Comeau, the Manicouagan Power Company installed the first of three additional units, with turbines rated at 60,000 h.p. each. The Eastern Smelting and Refining Company Limited placed in service a 42,000-h.p. development on the Chicoutimi River at Chicoutimi to supply power to its nearby smelter. The Aluminum Company of Canada Limited proceeded with its development on the Peribonca River at Chutes des Passes where the first of five units at 200,000 h.p. each are scheduled for service in 1959. At Rapide Beaumont on

One million horsepower is being added to the 2,580,000 h.p. of 'captive' capacity installed in five huge generating plants on the Lake St. John-Saguenay River system. The new project involves the building of an underground tunnel and powerhouse at Chutes des Passes on the Peribonca River.



the St. Maurice River, the Shawinigan Water and Power Company made good progress on its 330,000-h.p. development scheduled for initial operation in 1958. The Company operates seven other plants on this River totalling 1,695,000 h.p. capacity. The James MacLaren Company Limited had under construction a 50,000-h.p. plant on the Lièvre River near Buckingham.

Ontario.—Ontario has large water power resources and ranks second in power production among the provinces. The Hydro-Electric Power Commission of Ontario conducts province-wide operations and is Canada's largest power producing and distributing organization.

Another Quebec hydro-electric expansion is taking place on the St. Maurice River which flows into the St. Lawrence between Montreal and Quebec. The new station at Rapide Beaumont will add 330,000 h.p. to the 1,695,000 h.p. already installed on the St. Maurice.





The two Sir Adam Beck-Niagara Generating Stations on the Niagara River. These plants, together with the associated pumping-generating station help to make the Niagara one of the greatest sources of hydro power in the world. The capacity of this project, when completed in 1958, will be 2,522,000 h.p.

At the Commission's largest development, the Sir Adam Beck-Niagara Generating Stations at Niagara, two of the four 105,000-h.p. units being added to No. 2 station were placed in service late in 1957. At the pumping-generating station which is associated with the main development, three of the six units planned were completed during the year. When the additional units are completed in 1958, the total installed capacity of the whole development will be 2,522,000 h.p. Marking the fulfilment of the Niagara River remedial works program, the construction of the control dam about one mile upstream from the falls was completed and the last four of the 13 submersible gates were placed in operation. This program, which has been carried out jointly with the United States, was undertaken with a view to controlling the water level of the River and enhancing the beauty of Niagara Falls. At the St. Lawrence power project on the International Rapids section of the St. Lawrence River, excellent progress was made in 1957 on all phases of construction. More than 86 p.c. of the concrete work for the Canadian portion of the main dam and powerhouse structure was completed by the end of the year and mechanical equipment was being installed for the 16 units which will total 1,100,000 h.p. Five of these units are scheduled for service in 1958. Three new townsites have been created to accommodate people from the areas to be flooded along the north shore of the River.

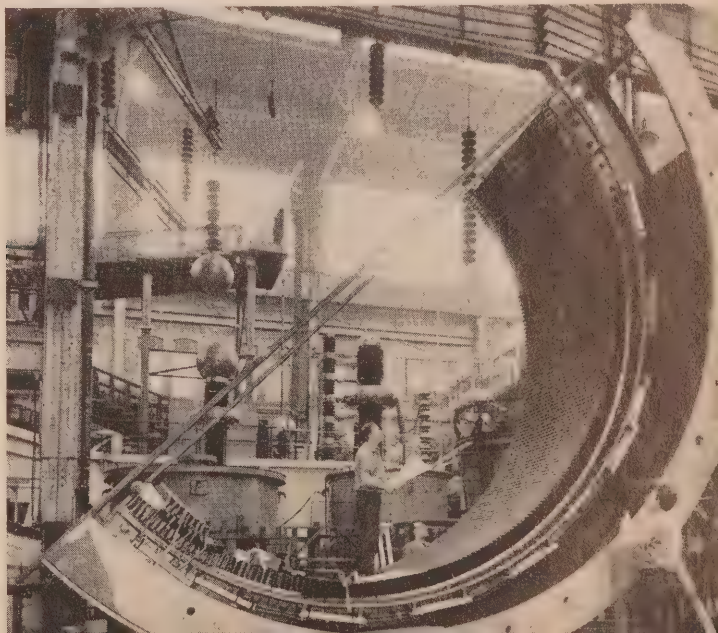
Other new hydro-electric projects were under construction in the northern areas of the Province. Those scheduled for operation in 1958 include a

development of 81,000 h.p. at Whitedog Falls on the Winnipeg River; a new 102,000-h.p. station at Caribou Falls and an extension of 18,500 h.p. to the Manitou Falls station, both on the English River; and extensions of 25,000 h.p. and 19,000 h.p., respectively, to the Cameron Falls and Alexander Falls stations on the Nipigon River. A 60,000-h.p. development at Silver Falls on the Kaministiquia River is scheduled for service in 1959. The Great Lakes Power Company placed a new unit of 30,000 h.p. in operation at its Upper Falls plant on the Montreal River bringing total plant capacity to 55,300 h.p. The Company is also constructing, for operation in 1958, a 30,300-h.p. development at Centre Falls on the Montreal River and another development of similar capacity on the Michipicoten River at Cat Falls which is scheduled for operation in 1959.

Prairie Provinces.—Of the Prairie Provinces, Manitoba has the largest water power resources with a great potential on the Saskatchewan, Nelson and Churchill Rivers. Most of the developed sites to date are located on the Winnipeg River and are used to serve Winnipeg, adjacent municipalities, and the transmission network of the Manitoba Power Commission which supplies more than 180,000 service contracts in suburban Winnipeg and rural Manitoba. The Manitoba Hydro-Electric Board is constructing a new development at Grand Rapid on the Nelson River to supply power for the International Nickel Company mining development in the Moak Lake-Mystery Lake district. The initial installation will comprise four 42,000-h.p. units, two of which are scheduled for operation in 1960. Sherritt-Gordon Mines Limited constructed a 7,000-h.p. development on the Laurie River and completed concrete sluiceway sections of the storage dams at the outlets of Eager and Russell Lakes.

In Saskatchewan, developments are confined to mining uses in the northern areas where water power resources are abundant. In 1957 the Hudson Bay Mining and Smelting Company commenced construction of an additional 19,000-h.p. stand-by unit for the Churchill River Power Company plant at Island Falls. Serving the more settled areas farther south, the transmission network of The Saskatchewan Power Corporation of the Provincial Government is supplied exclusively by thermal-electric plants. During the year, rural electric service was extended to an additional 6,500 farms making a total of about 46,500 electrified farms in the Province.

The electrical manufacturing industry contributes its full share to Canada's growth by supplying equipment to produce the power so vital to the economy. The production of water wheel generators, power transformers and circuit breakers was at record level in 1957.





The construction of the power project at Cheakamus, about 65 miles north of Vancouver, was an outstanding engineering achievement—one of the largest remotely controlled hydro-electric plants in the world. It involved the turning of a glacial stream at right angles to flow through a seven-mile tunnel and down 900 vertical feet to the powerhouse. The completion of this project in December 1957 added 180,000 h.p. to British Columbia's power output.

In Alberta, the larger hydro-electric developments from which Calgary Power Limited serves a large part of the southern portion of the Province are located on the Bow River and its tributaries. Considerable water power resources are also available in the northern areas. During 1957, Calgary Power Limited completed at its Cascades plant the second 23,000-h.p. unit which is to be used mainly for peak-load purposes. At its Spray Lakes development the Company has begun construction of the second 62,000-h.p. unit at the Spray plant and a 40,000-h.p. unit at the Rundle plant. About 3,200 farms received their initial electric service during the year making a total of about 40,000 electrified farms in the Province.

British Columbia.—The water power resources of British Columbia are contained in many fast-flowing rivers dispersed throughout the Province. They are enhanced considerably by numerous opportunities for high-head developments and in some instances by the possibility of utilizing even greater head by diverting flow from one watershed to another. British Columbia ranks second among provinces in water power resources and is exceeded only by Quebec and Ontario in installed capacity. Present developments are located chiefly in the southern part of the Province where a number of important sites are still available for development.

Hydro-electric construction was very active in 1957 with a total of 607,500 h.p. of new capacity installed during the year. On the Campbell River on

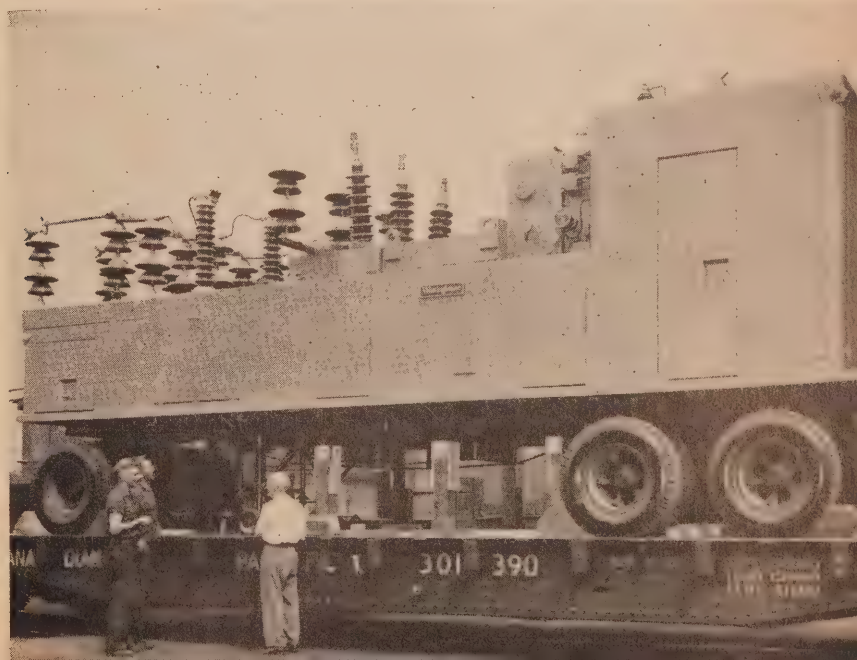
Vancouver Island, the British Columbia Power Commission added a second 35,000-h.p. unit to its Ladore Falls development below Lower Campbell Lake. At the Upper Campbell Lake development, an initial installation of 42,000 h.p. is expected to commence service in 1958. Construction proceeded also on the 35,000-h.p. Ash River development near Port Alberni, to be completed in 1959. On the mainland, the installation of a third 16,500-h.p. unit at the Whatshan development was finished.

The British Columbia Electric Company Limited commenced operation of its Cheakamus development comprising two units at 95,000 h.p. each. The development at Clowhom Falls on Sechelt Peninsula was rebuilt and the 4,000-h.p. two-unit installation was replaced by a single unit of 40,000 h.p. At the Company's Bridge River development, the power plant at the La Joie dam commenced operation with one 30,000-h.p. unit. Work was continued on the final phase of the development involving a large storage dam on the Bridge River, a second tunnel through Mission Mountain and a new powerhouse, Bridge River No. 2, on Seton Lake.

The Aluminum Company of Canada Limited installed the fifth and sixth units, each of 150,000 h.p., in its Kemano plant bringing the total capacity to 900,000 h.p. A seventh unit, also of 150,000 h.p., will be installed in 1958.

Yukon and Northwest Territories.—Substantial water power resources in the Yukon Territory are located principally on the Yukon River and its tributaries; in the Northwest Territories more than half the resources are located on rivers flowing into Great Slave Lake. Because of light precipitation, the favourable sites in the Territories are dependent on large storage capacities. The development of these resources will hinge chiefly upon the exploitation of the mineral wealth of the region. To encourage the development of the resources of northern Canada, the Federal Government in 1948 established the Northern Canada Power Commission, an agency for the construction and management of electric power utilities. During 1957, the Commission placed in service the second 3,000-h.p. unit at its Mayo River hydro-electric plant in the Yukon Territory and is continuing with a development at Whitehorse Rapids on the Yukon River near Whitehorse where an initial installation of two 7,500-h.p. units is expected in 1958 and provision is being made for a third similar unit.

Canada's first complete substation on wheels being transported from Ontario to British Columbia where it will be used to supply 60-cycle power when system changes are being made.



Thermal Power

As already mentioned, the production of hydro power in certain areas of Canada must be augmented by thermal power. There are regions without water power resources of any kind and other sections in which the available resources either have been fully developed or will be within the foreseeable future. Fortunately, the areas where water power is scarce have other sources of power readily at hand. In the southern mid-west there are abundant supplies of coal, natural gas and petroleum fuels to operate thermal stations and in southern Ontario where the large supplies of hydro power are still not sufficient to meet the requirements of industry, coal is available from adjacent areas of the United States.

Planning and construction of thermal installation are on the increase in several sections of the country, which will about double the present (1956) installed capacity of 3,300,000 h.p. A 27,000-h.p. unit is being added to the steam plant at St. John's, Nfld. In Nova Scotia, the Trenton plant will be expanded by 27,000 h.p. The Halifax steam plant capacity was increased by 60,000-h.p. in 1957 and a similar unit will be constructed for 1959 operation. A new 67,000-h.p. plant is under construction in New Brunswick. In Ontario the Richard L. Hearn steam station at Toronto is being expanded to 1,600,000 h.p. and Ontario Hydro will construct three large thermal stations, one at Fort William and the others in the Toronto-Hamilton area. Manitoba Hydro-Electric Board will build four 44,000-h.p. units at Brandon by late 1958 and a 164,000-h.p. thermal station at Selkirk by late 1959. An 88,000-h.p. unit is being added to the Alberta Wabamun thermal plant, and in Saskatchewan a total of 55,000 h.p. will be added to three thermal stations.

It should also be noted that Ontario Hydro is continuing its investigations with Atomic Energy of Canada and other major power bodies on the development of a nuclear power reactor which will serve as a preliminary step toward the large-scale production of atomic power.

Electric Power Statistics

The total electric power generated in Canada in 1956 amounted to 87,938,931,000 kwh. This figure includes power generated or purchased for resale by publicly or privately owned utilities and power generated by industrial establishments mainly for use in their own plants. Of the total, 93 p.c. was produced from water power and the remainder was generated thermally; 5,103,669,000 kwh. were exported to the United States.

Electric utilities provide much of the power for large industries, but some of them generate their own requirements. In 1955, manufacturing industries purchased 35,380,911,000 kwh. but generated for their own use 9,432,663,000 kwh. Of this amount, 3,933,277,000 kwh. were generated by pulp and paper industries and 3,568,749,000 kwh. by smelters and refineries. The primary mining industry purchased 2,963,675,000 kwh. from electric utilities but generated 463,860,000 kwh.

In 1956 there were 3,833,913 domestic, including rural, customers in Canada compared with 1,987,360 in 1945. During that period the amount of electricity consumed domestically advanced from 3,365,497,000 kwh. to 14,337,628,000 kwh., or from 1,693 kwh. to 3,740 kwh. per customer. The per customer consumption varied widely among the provinces; Manitoba

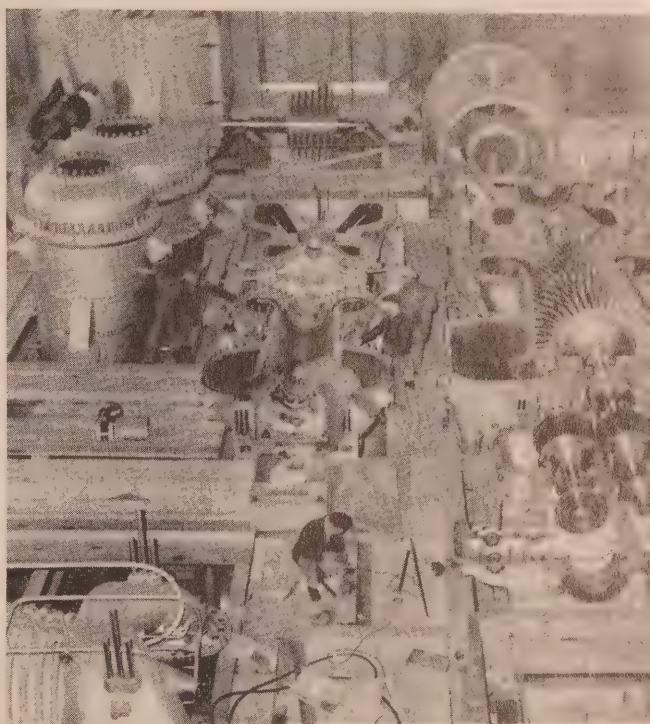
led with 5,636 kwh. while Prince Edward Island and New Brunswick had the lowest averages. Farm customers added during 1956 numbered 25,003, over half of the increase being in Saskatchewan and Alberta. In 1956, Ontario accounted for about 50 p.c. of the total domestic power consumed, though this Province had but one-third of the total population of the country.

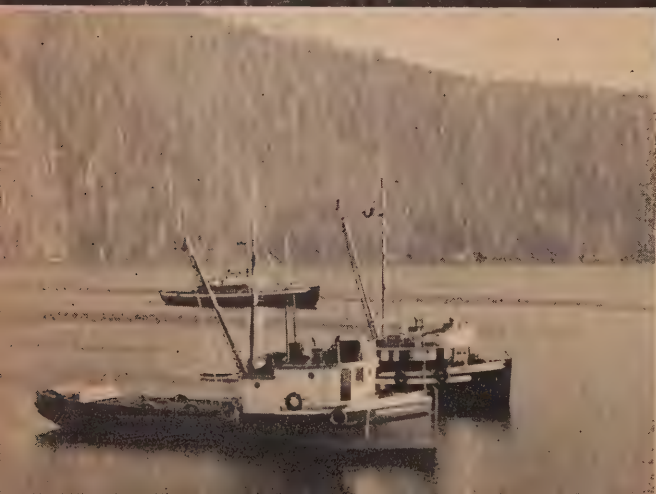
Canadians enjoy one of the lowest rates per kilowatt hour in the world. The revenue from domestic consumers averaged 1.64 cents per kwh. in Canada in 1956 as compared with 2.60 cents in the United States and commercial and industrial sales averaged 0.5 cents per kwh. in Canada compared with 1.3 cents in the United States. The 1956 average bill for domestic and farm service stood at \$61.41 against \$28.05 for 1945, an increase of 119 p.c., while consumption per customer rose 121 p.c. Provincial bills ranged from \$82.61 for British Columbia to \$48.47 for Quebec.

There is growing emphasis on the production of thermal power in Canada as full development of economical water power sites nears completion.

One of two 30,000-kw. gas turbines being installed at an Edmonton power plant which will be in production in 1958. At present five steam turbines generate all the city's power.

The largest thermal electricity-producing turbo-generator in Eastern Canada was placed in commission at Halifax in 1957, sending 50,000 kw. an hour through the distribution lines of Nova Scotia.





Part of a thirty-man crew aboard a commercial fishing vessel hauls up a full net of spring salmon from a fish trap set near Sooke, B.C.

Fisheries

ETCHED deeply into the chapters of Canada's history is the story of the commercial fisheries that have been a part of the Canadian pattern for more than four hundred years. It was the Genoa-born explorer, John Cabot, whose tiny ship *Matthew* first furrowed the waters off Canada's East Coast in 1497, who sparked the initial interest in the prolific fishing grounds extending for about 12,000 miles along the Continent's north Atlantic seaboard. Soon after Cabot's return to England, fishermen from Europe began to exploit the fishery resources that now form Canada's commercial fishing territory—extending from Grand Manan in southern New Brunswick northward to Hudson Strait. Though fishing methods and techniques have since improved radically, the basic elements remain unchanged; hardy fishermen still reap large and valuable harvests from these same waters.

A later chapter of history relates the beginning of commercial fishing in Pacific waters. In the early 1800's, fur traders pushed their frontiers beyond the Rockies to the western ocean and the potential of salmon as a commodity of great commercial importance and a source of livelihood was very soon recognized. Exports of salt-cured salmon began in 1835 and the first commercial fish cannery was opened in 1870. New impetus was given to the salmon fisheries by the completion of the transcontinental railway in the mid-1880's which provided a means for extending markets. New outlets were also made available through gradually improving methods of transport and a growing population. The halibut fishery, which had been confined to local areas, also benefited by these changes and began to send its products farther afield.

The inland fishing industry also has a history of its own. The myriad lakes and rivers throughout the country, most of which abounded in fish, were haphazardly exploited by the Indians long before the white men came. Because fish was a natural food available for the taking, it formed a large part of the diet of the settlers when they arrived, just as it did for the Indians, and soon commercial fisheries became established. As might be expected, with no restriction or regulation to protect them, some of the inland fisheries could not withstand the demands placed on them by advancing civilization and many sources of supply became fished out. For example, the runs of salmon and other sea fish to the St. Lawrence River and the Great Lakes gradually became depleted and the bulk of this fishery was exhausted before the end of the nineteenth century. Today, a substantial commercial fishery producing some 120,000,000 lb. each year is conducted in such large inland water areas as the Great Lakes, Great Slave Lake in the Northwest Territories and the larger lakes of the Prairie Provinces.

It was not until the beginning of the twentieth century that the ocean fisheries on both coasts began to experience the far-reaching changes that were to develop them into big business. Probably the use of the gasoline engine in the early 1900's was the first of these revolutionary changes. With power instead of sail, fishermen were able to extend their fishing to wider areas and return with their catches in shorter time. Purse-seining for salmon and herring was introduced on the Pacific Coast, and draggers using otter trawls began to make their appearance on the Atlantic Coast. The industry

was dependent mainly upon canned and cured products for many years until the gradual development of refrigerated storage and distribution facilities opened up a volume market in North America for fresh and frozen fisheries products. Progress was more rapid on the Pacific Coast where the abundance and comparatively high price of the chief species caught—salmon and halibut—encouraged a high rate of capital investment by private enterprise. On the Atlantic Coast, progress was slower because low-valued cured-fish products were the mainstay of the industry but, with the development of filleting and quick-freezing, there has been a shift toward fresh and frozen groundfish production and higher prices have encouraged investment in modern boats and in the improvement, consolidation and concentration of processing operations.

The Canadian commercial catch of fish and shellfish amounts to some two billion pounds a year with a marketed value close to \$200,000,000. Pacific salmon is the most valuable of these fisheries. The catch fluctuates each year with cycles of the various species—sockeye, coho, pink, chum and spring—but averages about 150,000,000 lb. The value of canned salmon ranges between \$30,000,000 and \$40,000,000 annually, all salmon products having a marketed value of between \$40,000,000 and \$50,000,000 in normal years. The halibut catch, which amounts to about 25,000,000 lb., is restricted under the Northern Pacific Halibut Convention and is taken within a few weeks but marketed through the year in dressed frozen form. Herring, caught by purse-seining to the extent of about 380,000,000 lb., is processed into fish meal and oil.

Cod comprises about 45 p.c. of the Atlantic Coast catch. The major part is salted for consumers in the Mediterranean and Caribbean areas, but part of the catch of this species and other groundfish such as haddock, redfish and the various flatfishes is processed into fresh and frozen fillets for the Canadian and United States markets. These products from cod and related species have an annual market value of between \$25,000,000 and \$30,000,000. While the groundfish landings are great in volume, the lobster is the most valuable species taken from the Atlantic. Most of the lobster is sold in the shell and goes to the United States.

Whitefish, pickerel and lake trout are the most valuable of the inland water commercial fishing industry, which is carried on summer and winter. The bulk of this catch is also marketed in the United States.

Altogether, there are nearly 30,000 primary fishing enterprises in Canada which provide complete or partial livelihood for nearly 80,000 fishermen. At the same time, about 16,000 workers are employed in the fish-processing industry, a great many in small plants with an average of 20 workers each.

Administration of tidal fisheries, except those of Quebec, is in the hands of the federal Department of Fisheries. Since its establishment the Department has never lost sight of its responsibility to the people of Canada for conservation and development of the fisheries resources. Administrators and biologists have been diligent in devising programs to protect and develop the resources of both ocean and inland waters. Technologists are engaged in continuous research into methods of preserving and processing the landings and developing new products. Through the Fishermen's Indemnity Plan, low-cost insurance is provided for fishing vessels up to a specified value, and for lobster traps. Loans are also made available to help fishermen purchase

fishing craft. In addition, emphasis is being placed on expanding the domestic market for fish. The Department of Fisheries, through carefully planned programs, is educating the Canadian public to the value of fish not only as a basic economic resource but also as an important food resource.

Canada has long taken a foremost part in initiating and administering control measures at international levels. Under the International Pacific Salmon Fisheries Treaty, Canada and the United States have had remarkable success in re-establishing the sockeye runs of the Fraser River and similar protection is under consideration for the Juan de Fuca-Fraser River area. Outstanding results have also accrued to joint Canadian-United States action in the restoration of the halibut stocks of the North Pacific and the Bering Sea, and in the management of the Pribilof seal herds. Both countries have united in an endeavour to restore the Great Lakes fisheries by initiating measures to control the parasitical sea lamprey.

As a member of the International Commission for the Northwest Atlantic Fisheries, Canada takes a leading role in the management of the fisheries of the Northwest Atlantic, and is a signatory with the United States and Japan to the International Convention for the High Seas Fisheries of the North Pacific Ocean. Canada is also a member of the International Whaling Commission.

Shellfish, particularly lobster, are a lucrative source of income for the Maritime fisherman. Actually lobster, being a luxury product, is the most valuable species taken from the Atlantic.

Oyster fishermen setting out from Ellerslie, P.E.I., on their way to the famous Malpeque Bay oyster beds. Most of the revenue of commercial fishermen in that Province comes from oysters and lobster. ▼





One-third of the value of the Great Lakes fish catch now comes from Lake Erie blue pickerel. The once large and profitable trout fishery has been brought to the verge of extinction by the ravages of the sea lamprey. An urgent program is being carried out jointly by fishery scientists of Canada and the United States to find means of destroying this scourge. Lamprey control workers use dip nets and portable electric shockers to collect lamprey larvae.

Fishery Statistics

The value of production of the fishing industry fluctuates from year to year mainly because it is dependent upon the vagaries of nature, but also for certain economic reasons. The industry in 1956 experienced a highly successful year, achieving all-time records for volume of catch, gross income to the fisherman (landed value) and export sales. The value of products produced was \$197,654,000, the second highest on record, and export sales reached the unprecedented figure of \$133,706,000.

In British Columbia the catches of herring and halibut were particularly high, but it was an off-year in the cycle for the pink and sockeye species, and the salmon take was the lowest since 1944. However, most British Columbia fish brought very high prices and the total landed value of all products was about 30 p.c. higher than in 1955.

Atlantic Coast fisheries results were also very gratifying in 1956. The catch was the best since 1952 and gross income at \$53,871,000 was the highest on record. The groundfish catch brought the fishermen \$26,000,000 and the heavy catch was reflected in increased production of frozen fillets of cod, haddock and redfish. The lobster catch reached 51,517,000 lb. with a landed value of \$17,875,000, both considerably increased over the previous year. The price level for Atlantic fish was generally somewhat higher in 1956 than in 1955, which contributed to the increase in the value of products.

A bumper catch was reported for inland waters in 1956. Most of the catch comes from Ontario and Manitoba, and an exceptionally heavy yield by Ontario fisheries accounted for most of the gain from 1955 to 1956.

Estimates for 1957 reflect a loss of income from all the major fisheries of both coasts but particularly those of British Columbia, but a heavy yield and satisfactory prices were indicated for inland provinces.

Quantity and Value of Landings of the Chief Commercial Fish, 1954-56

Kind of Fish	1954		1955		1956 ^P	
	Quantity	Value	Quantity	Value	Quantity	Value
	'000 lb.	\$'000	'000 lb.	\$'000	'000 lb.	\$'000
Atlantic Coast	1,330,638	50,361	1,299,954	50,057	1,357,170	53,871
Cod.....	639,341	15,990	579,563	14,367	633,912	14,904
Haddock.....	117,989	4,244	135,573	4,325	154,934	4,851
Halibut.....	4,976	1,112	4,446	950	5,323	1,236
Herring and "Sardines".....	221,960	2,730	201,089	2,046	195,921	2,404
Lobsters.....	46,675	15,558	48,568	16,470	51,517	17,875
Mackerel.....	27,664	1,045	28,118	1,072	22,337	801
Redfish.....	48,739	1,106	43,980	1,015	59,686	1,272
Salmon.....	3,955	1,280	2,644	892	2,650	983
Swordfish.....	4,304	1,139	4,546	1,090	3,990	1,100
Other.....	215,035	6,157	251,427	7,830	226,900	8,445
Pacific Coast	602,270	34,458	498,376	27,711	677,225	36,058
Halibut.....	25,199	3,984	19,679	2,555	23,315	5,067
Herring.....	360,962	4,565	305,692	4,187	491,396	7,077
Salmon.....	178,862	23,579	131,008	18,481	113,530	21,356
Other.....	37,247	2,330	41,997	2,488	48,984	2,558
Inland	116,187	12,723	118,959	13,124	124,870	13,868
Pickarel (blue).....	8,210	1,231	12,070	1,448	12,020	1,802
Pickarel (yellow).....	16,759	2,667	19,739	3,093	20,763	3,146
Whitefish.....	24,577	4,425	21,990	3,726	22,650	3,588
Other.....	66,641	4,400	65,160	4,857	69,437	5,332
Totals, Canada	2,049,095	97,542	1,917,289	90,892	2,159,265	103,797

Landings and Values of All Fishery Products, by Province, 1954-56

Province or Territory	Quantities Landed			Value of Products		
	1954	1955	1956 ^P	1954	1955	1956 ^P
	'000 lb.	'000 lb.	'000 lb.	\$'000	\$'000	\$'000
Newfoundland.....	607,413	553,170	568,336	28,000 ¹	25,000 ¹	26,000 ¹
Prince Edward Island	34,627	35,931	42,202	3,922	3,841	5,246
Nova Scotia.....	396,511	425,902	420,700	44,079	47,093	48,000
New Brunswick.....	213,294	167,438	194,289	22,161	20,420	23,700
Quebec.....	92,545	129,192	140,110	5,002	6,675	8,086
Ontario.....	47,680	45,634	59,710	7,889	7,631	8,920
Manitoba.....	28,445	34,936	30,113	5,279	6,044	5,390
Saskatchewan.....	10,524	10,152	10,000 ¹	1,644	1,617	1,800 ¹
Alberta.....	8,765	8,731	9,641	1,141	1,144	1,304
British Columbia....	602,270	498,376	677,225	69,351	60,032	67,725
Northwest Territories	7,021	7,827	6,939	2,040	1,529	1,483
Totals	2,049,095	1,917,289	2,159,265	190,508	181,026	197,654

¹ Estimated.

Large quantities of Atlantic fish are still preserved by drying and salting, but little of this production is eaten in North America. The taste in Canada and in its best customer-country, the United States, is for groundfish such as cod, haddock and the flatfishes in fresh or frozen form.





Machining aircraft engine parts. The aircraft and parts industry is mostly concentrated in the Montreal area of Quebec and in southern Ontario. The industry, which is among the top ten in Canada, employs more than 35,000 persons and has an annual output valued at \$350,000,000.

Industrial Development

CANADA'S rapid industrial progress during the past decade has been so broadly and firmly based that nothing short of a global war—unthinkable in this age of intercontinental missiles and hydrogen bombs—or a prolonged economic slump on a broad international front is likely to retard its growth. Canada today stands sixth industrially and fourth in international trade.

This young giant of the Western and Northern Hemispheres is favoured with a unique strategic position among the paramount nations of the modern world, is richly endowed with the vital resources of twentieth century industrialism, and possesses one of the most modern and varied transportation systems. Moreover, its small population has recently been increasing at the remarkable rate of over 2.5 p.c. each year, while the nation's other deficiency—adequate domestic investment capital for sustained industrial development—has been largely provided by an immense influx of foreign capital, principally from the United States.

The great wave of resource and industrial development of the past decade has been brought about by a combination of favourable circumstances—an upsurge in national confidence and awareness of potentialities arising from war and postwar achievements—a significant increase in world demand for industrial materials—Canada's strategic position which enables it to share with the highly industrialized United States the latest technological innovations as applied to new resource discoveries, new methods of transport and new manufacturing processes.

Agriculture and forestry remain among the most vital segments of the dynamic Canadian economy although somewhat less spectacular than certain recent resource development projects in the mining, energy and transportation fields. Under the impact of mechanization and electrification, Canada's farms are steadily increasing their unit output and generally lowering unit costs. Likewise, advanced technological developments and improved utilization and conservation methods are rendering Canada's vast forests potentially more productive. Indeed, the remarkable growth in the gross value of production of the lumber, pulp, paper and other forest industries from \$2,239,000,000 in 1947 to \$3,959,000,000 in 1955 may be considered a fair measure of the expanding rate (76 p.c.) of Canadian industry in general.

Basic, moreover, to Canada's recent growth and potential as an industrial power is the wealth and variety of its energy resources—coal, water power, petroleum, natural gas and uranium ores. Although Canada's rich coal resources of some 98,000,000,000 tons are distant from present concentrations of population and, apart from the Cape Breton fields, have not thus far generally constituted a principal energy source, this deficiency has happily been offset, as far as Ontario, Quebec, Manitoba and British Columbia are concerned, by an abundance of widely distributed water power resources. Presently explored and recorded water power resources are sufficient to permit a hydro-electric turbine installation of 87,000,000 h.p., and installed capacity of 19,891,000 h.p. places Canada second only to the United States in total amount and second only to Norway on a per capita basis. Moreover, other installations currently under construction—such as at Bersimis in



The aluminum plants in Canada are the only smelters using imported ores. The dependence of this industry on great quantities of cheap electric power, which is available in Canada, was responsible for its establishment on such a large scale. The smelter at Arvida in Quebec is the largest in the world and, until late in 1957, was one of five which together had a capacity of 770,000 tons annually. A new plant now in initial production at Baie Comeau will eventually add 180,000 tons to this capacity.

Quebec, Kemano-Kitimat in British Columbia and the St. Lawrence Power Project—are expected to add 2,200,000 h.p. of new capacity during 1958 and more than 4,300,000 h.p. in the succeeding few years.

This accelerated expansion of cheap hydro-electric power is indicative of the increased rate of power demands of the Canadian economy. Yet Canada possesses also vast resources of petroleum and natural gas in its extensive interior plains region estimated in 1957 to comprise proved recoverable reserves of 3,500,000,000 bbl. and 24,000,000,000,000 cu. feet, respectively. The actual and potential markets for Canadian oil and gas in Western Canada, in the mining centres of northern Ontario, in the Toronto and Montreal industrial areas, and in the Pacific northwest and north central States of the United States are such that exploration for and development of these energy resources will be maintained at a high level for many years. It is estimated that over 90 p.c. of Canada's oil exploration work remains to be done.

The tremendous activity that has recently taken place in the transporting, refining and marketing of these energy resources has significantly



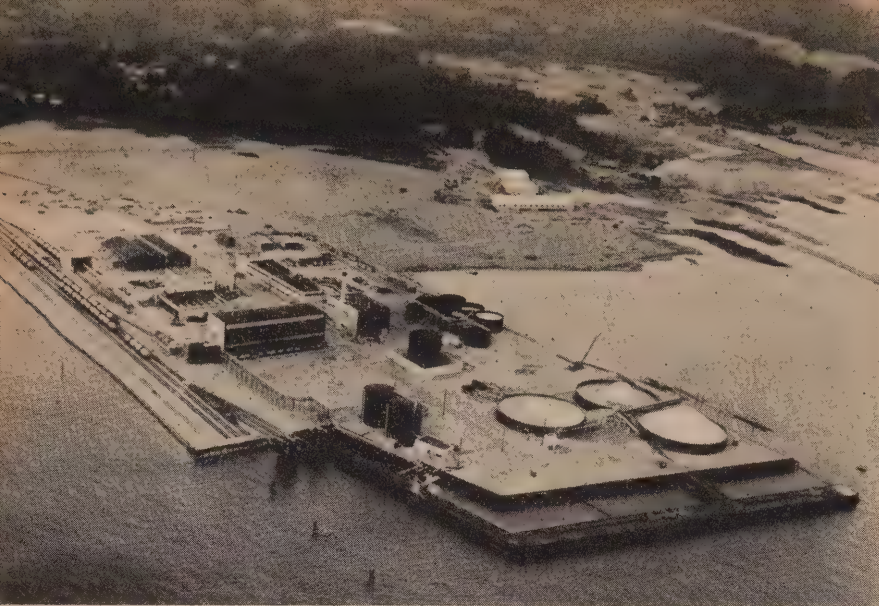
Although a great part of the output of the aluminum smelters goes outside Canada in ingot form, the use of this versatile metal in domestic manufactures is continually expanding. It has become indispensable in many fields—for rail, road and water transport equipment, for electrical equipment, for containers and packaging, and for architectural uses.

strengthened the Canadian economy. In 1957, operational Canadian crude oil pipeline mileage of 6,800 (including the Interprovincial Pipe Line from Edmonton to Sarnia and the Trans Mountain Pipe Line from Edmonton to Vancouver) had a throughput of 180,000,000 bbl. In addition, a natural gas pipeline mileage of 8,700 (including the Westcoast Transmission Company pipeline from the Peace River district to Vancouver completed early in October 1957, and the 2,200-mile Trans-Canada gas pipeline from Alberta via an all-Canadian route to Toronto and Montreal, of which 60 p.c. was completed in 1957) had a throughput of 206,000,000,000 cu. feet.

As a result of these major pipeline operations and the attendant expansion of strategically placed oil refineries, Canada is rapidly becoming self-sufficient in oil and gas as important new energy resources for its industrial growth. The economy of the western provinces and Ontario is undergoing important structural changes through the establishment of ancillary industries utilizing these new fuels; the thriving petro-chemical industry close to the major refining centres or near the low-cost natural gas and oil fields are a striking example.

Canada is, moreover, a leading world source of uranium ores, one of the newest and most spectacular of energy resources. Its eighteen uranium mines in production at the end of 1957 with thirteen processing plants had attained a uranium ore capacity of 24,900 tons per day and a uranium precipitate of 15,000 tons U_3O_8 per year. A total of twenty-two mines and eighteen processing plants in production by mid-1958 will have an estimated capacity of 42,800 tons of uranium ore a day, principally in the Northwest Territories, in northern Saskatchewan at Uranium City, and in the Blind River and Bancroft areas of Ontario. Canada is also among the leaders in atomic research for industrial purposes, having under construction an atomic power station for experimental purposes in the new technical field of electric power generation through the use of nuclear fuels.

Despite the fact that less than one-third of Canada's land area has undergone geological reconnaissance mapping and a much smaller area on a scale adequate for mineral exploration, the rich variety, constantly expanding accessibility and abundant wealth of its mineral resources brought to light



A chlorine and caustic soda plant started operations on the West Coast in 1957. Burrard Inlet provides deepwater transportation for ships bringing in supplies and handling the products of this establishment which are used mainly by pulp and paper mills, oil refineries, plywood adhesive manufacturers and municipalities for purifying water and treating sewage.

by the latest methods of scientific and technological research, place Canada among the great mineral-producing nations. A measure of the growth and significance of the Canadian mining industry may be observed in the following statement.

<i>Mineral</i>	<i>Av. 1945-49</i>	<i>1956</i>	<i>1957</i>	<i>1957 as p.c. of 1945-49</i>	<i>Canadian Production as p.c. of 1956 World Production</i>	<i>Canada's World Rank 1956</i>
Copper..... '000 tons	230.3	354.9	346.0	150.2	9	5
Nickel..... "	119.5	178.5	188.1	157.4	64	1
Gold..... '000,000 oz.t.	3.3	4.4	4.4	133.3	12	2
Zinc..... '000 tons	244.9	422.6	412.3	168.4	13	2
Iron ore..... "	1,923.3	22,348.3	22,387.0	1,164.0	—	4 ¹
Lead..... "	167.9	188.9	187.9	111.9	9	5
Uranium..... '000 lb.	—	4,581.1	12,875.8	—	—	—
Asbestos..... '000 tons	595.7	1,014.2	1,061.4	178.1	58	1
Gypsum..... "	2,275.7	4,895.8	4,500.7	197.8	16	2
Petroleum... '000 bbl.	11,470.5	171,981.4	181,562.9	1,582.9	3	7
Silver..... '000,000 oz.t.	14.3	28.4	30.1	210.4	13	3

¹ By 1957.

That Canada in seven years has doubled its mineral production indicates that it is producing many basic minerals vital to its own economy and in short supply in other countries. Furthermore, the fact that these resources are available in a politically and economically sound Canada has attracted a remarkable inflow of investment capital and technical skills from the United States. Increased Canadian and foreign investment in new mines, in oil fields and related industrial projects, and in new transportation facilities has brought about substantial shifts in Canada's economic geography, broadening the distribution and diversification of industry and strengthening the national economy.

Many of the major resource developments in hand—be they Alcan's Kemano-Kitimat in hydro power and aluminum, Inco's Mystery Lake-Moak Lake nickel in northern Manitoba, the Trans-Canada natural gas pipeline, the Iron Ore Company's Knob Lake and the neighbouring Grand Falls hydro-electric scheme, the Canadian-British Aluminium's Baie Comeau smelter on the north shore of the Lower St. Lawrence, Bowater's pulp and

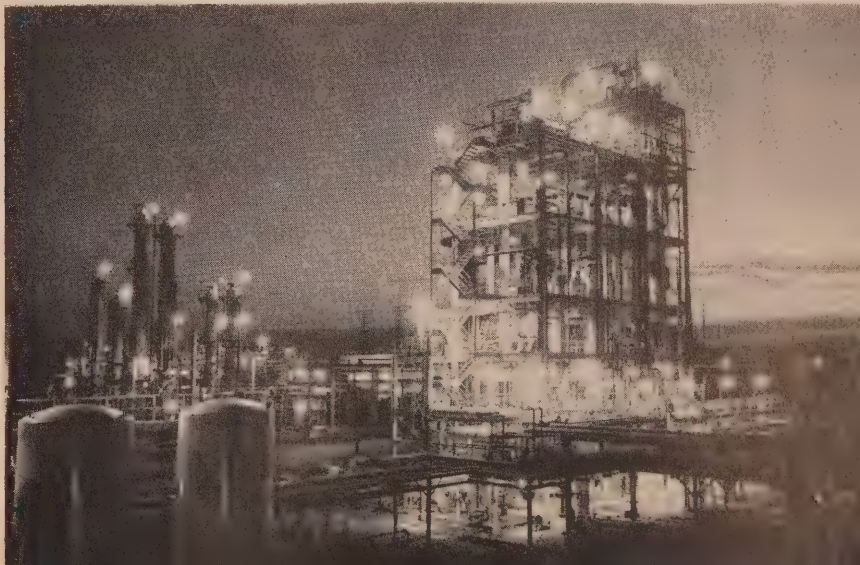
Polythene film is one of the most common of the plastic end-products of the petrochemical industry, the production of which has increased by leaps and bounds. Its use has largely overcome the problems formerly experienced in the packaging of perishable foods.

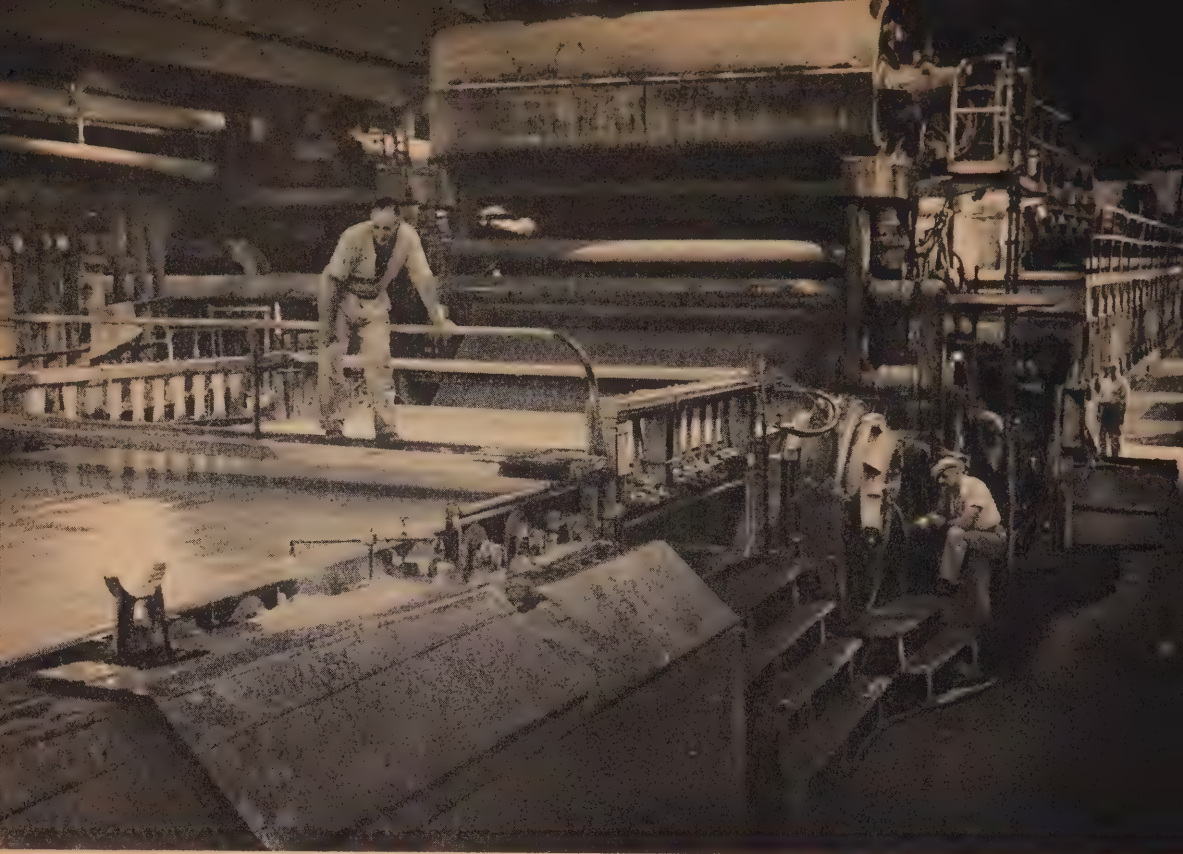


paper expansion program in Newfoundland, or the St. Lawrence Seaway's deep channel navigation and hydro-electric development—have brought in their train an accentuated demand for other capital outlays in the provision of new or expanded manufacturing industries, various types of distributive and service facilities, public projects such as roads, hospitals and schools and, of course, more housing to accommodate a growing population.

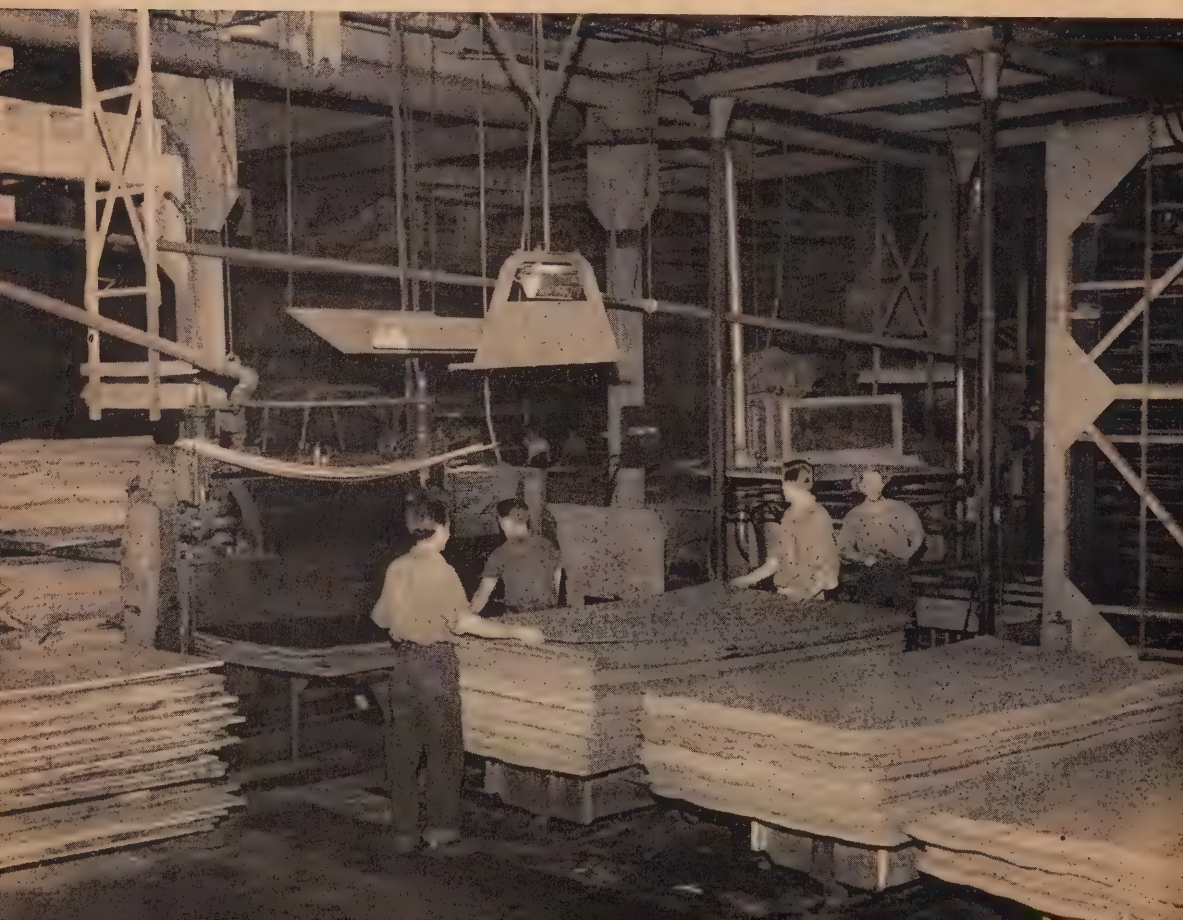
Although a more moderate expansion characterized many aspects of Canadian industrial development in 1957 than was the case in 1956 when construction on certain major projects was at its peak and the stock-piling of strategic minerals by the NATO powers was still a significant factor, the citing of various economic indicators provides additional evidence that Canada is rapidly assuming the status of a great industrial nation. Between 1951 and 1956, Canada's population has grown by 14.8 p.c., its per capita disposable income from \$1,056 to \$1,259 or by 19.2 p.c., its per capita gross national product from \$1,511 to \$1,872 or by 23.9 p.c., and its volume of industrial production by 25.6 p.c. An even more rapid growth has taken place during the past two years as evidenced by annual increases of 7 p.c. in the physical volume of Canadian goods and services, and increases of 11.2 p.c. in the value at market prices. Canada's foreign trade, likewise a significant measure of the nation's industrial expansion, reached an all-time high level of \$10,569,000,000 in 1956, a point almost retained in 1957.

Montreal Island's chemical properties continue to expand. The products of this new plant will eventually find their way into the manufacturing of shampoos, antifreeze, latex paints and liquid starches.





Raw materials from the forests being transformed into goods for the consumer The wet end of a paper machine where the pulp is evenly distributed on a moving screen through which water drains, leaving a mat of fibres Spreading glue on sheets of veneer in the making of plywood.



Manufactures

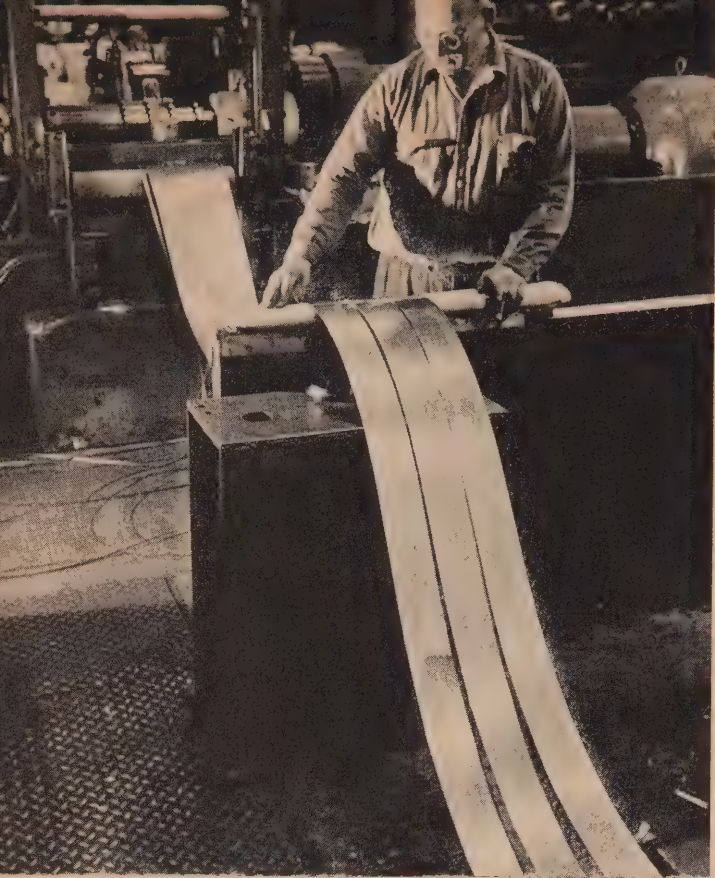
In terms of employment and value of output, manufacturing today ranks first among Canada's industries. More Canadians are dependent upon it for their livelihood than on any other single industry; it accounts for close to 30 p.c. of all national production and is the leading industry in seven of the ten provinces. Directly, manufacturing supports nearly one-third of the whole population; indirectly, it contributes significantly to the employment of most other Canadians through purchases by manufacturing companies and their employees and dependants of raw materials, foods, farm products and transportation services, to mention only the more important.

There are now as many Canadians employed in manufacturing as in the combined industries of farming, forestry, fishing, mining and construction. Preliminary figures for 1956 show that a record total of 1,364,000 employees, working in some 38,000 manufacturing plants, earned more than \$4,600,000,000. The selling value of factory shipments of goods produced by these employees was in excess of \$21,800,000,000—another record. After deduction of the cost of materials, fuel and electricity, net value added in manufacture is established at over \$9,600,000,000, nearly one-third of the gross national product in 1956.

Although it is only in quite recent years that manufacturing has attained its position of pre-eminence in the Canadian economy, the industry's beginnings can be traced back more than 200 years. Iron was smelted and clothes were made in Quebec in the mid-1700's, albeit on a small scale. But Canada's industrial growth may properly be said to date from around the year 1800. With Napoleon master of the European Continent, England had to look elsewhere for the necessities of life and war and these were to be found in the colonies across the Atlantic. There was a rapid expansion of commerce between Canada and the Mother Country as British ships, denied access to the principal ports of Europe, established alternative sources of supply.

For Canada, this was a development of the greatest importance. New industries sprang up, were developed and subsequently came to dominate the domestic economy. In the Maritimes it was fishing, lumbering and ship-building. In Upper and Lower Canada—the present Ontario and Quebec—it was lumbering and wheat. The exploitation of these primary products of forest, soil and sea paved the way for the later development of secondary industry, but this development was slow in coming. Although the American Civil War touched off another phase of rapid industrial expansion in the 1860's, lumbering and wheat remained the mainstays of the Canadian economy throughout the nineteenth century.

But the pace of industrial progress was noticeably faster in the years following Confederation in 1867. In the wake of political unification and self-government came geographic expansion, construction of the Canadian Pacific railway, and new settlement, the latter bringing with it a steady increase in the flow of skills, brains, brawn—and capital. As early as 1871, a handful of small businessmen, meeting in Toronto, founded the Canadian Manufacturers' Association, dedicated to promote the growth of home industry, a policy endorsed eight years later by the electors when, in the

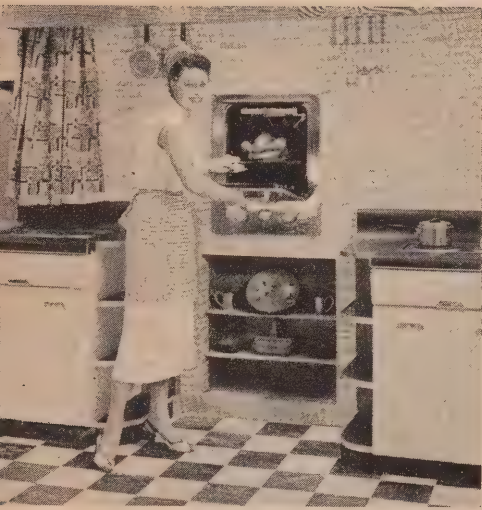


Nearly 2,000 miles of stainless steel rolled off the production line of a great sprawling mill in the bustling Niagara peninsula city of Welland—one of North America's most efficient specialty steel-makers. The first stainless steel alloy was made in 1914 but so remarkable are the qualities of this corrosion-resistant, silver-satin metal that today its applications number over 100,000.

general election of 1879, they approved "The National Policy" of protective tariffs to encourage domestic processing of Canadian raw materials. Newly established factories processing various by-products of lumber, wheat and animals for home consumption survived and prospered even

during the period of economic depression which marked the late 1870's and early 1880's. By 1900, manufacturing had developed to the point where it employed slightly more than 15 p.c. of the labour force.

The development of manufacturing, rooted as it was—and is—in Canada's great wealth of natural resources, gained new impetus in the first years of the twentieth century as hundreds of thousands of immigrants poured in from Britain and Continental Europe. The discovery of electricity and the harnessing of a small part of Canada's vast reserves of hydro-electric power provided industry with a cheap and efficient source of energy. Other technological developments, inventions and innovations served to stir fresh interest in Canada's growth potential, as men came to realize the vast storehouse of mineral wealth which lay within the Canadian Shield. All this—the influx of people and capital, the opening up of the West, the cheapness of hydro-electric power, improved



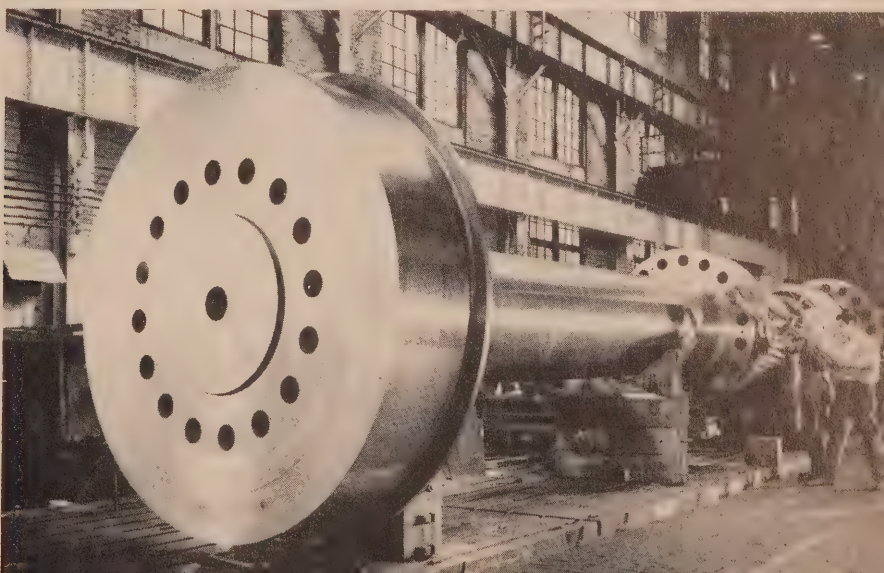
From kitchens to aircraft the potential of stainless steel is endless.

communications and transportation at lower cost as a result of expansion of railway, highway and waterway, the abundance and quality of wheat and lumber production—speeded the development of secondary industry.

For Canada, then, the first twenty years of the twentieth century was a period of unprecedented expansion. The growth of the domestic market (population advanced from 5,000,000 to 8,500,000, an increase of 70 p.c.) generated great demand for capital and consumer goods of every description. Cities and towns grew rapidly. Factories, homes, farms, schools and hospitals were built and equipped. These were the years in which the Canadian economy gradually underwent transformation. Hydro-electricity, chemistry, technological advances and metallurgy all combined with the natural resources of the north and west to mould the modern industrial Canada. The outbreak of World War I in 1914 accelerated Canadian industrial progress and diversification, with particular emphasis on such industries as steel, shipbuilding, non-ferrous metals, and pulp and paper. By 1920, manufacturing employed as many as 600,000 Canadians, more than 17 p.c. of the labour force.

Following the brief, sharp depression of 1921, progress was resumed through the remainder of the decade, though the limited domestic market acted as a brake on spectacular development. However, the pulp and paper industry established itself as the leading manufacturing industry, competing successfully in world markets, as did the farm implements industry. The world-wide depression of the early 1930's halted industrial progress in Canada, as in other countries, for several years and reduced economic activity to its lowest point.

A gradual improvement in business conditions marked the second half of the decade. When war broke out in 1939, Canadian industry, as 25 years earlier, responded to a flood of military orders and expanded and diversified at a dramatic rate. History repeated itself when the British Isles were cut off from Europe as they had been in the early 1800's and Canada, along with the United States, became "the arsenal of the free world". Productive capacity, inadequate to meet the demands placed upon it, underwent intensive expansion. Out of this came the swift growth of such heavy industries as those producing automobiles, aircraft, ships and steel. There was spectacular development in such fields as aluminum, electrical apparatus, toolmaking and chemicals. Fewer imports meant the satisfaction from domestic



Giant steel shaft for one of the eight St. Lawrence Power project generators. It will weigh 58 tons when shipped.



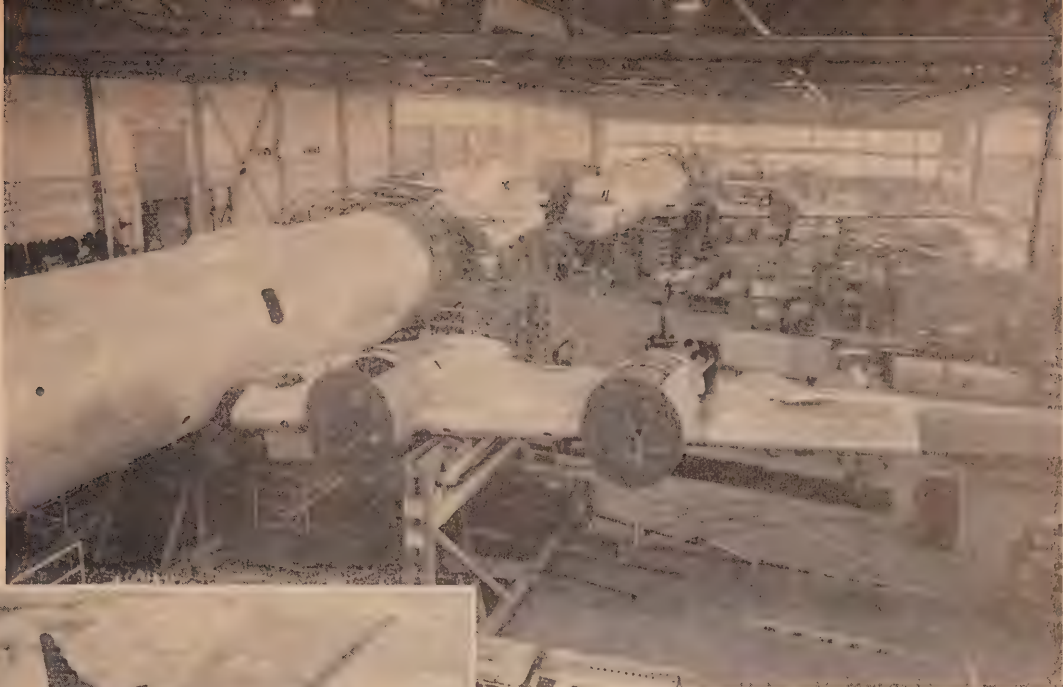
Six test beds for turbo-jets are part of an \$11,000,000 expansion of research and development facilities started in 1956 at Malton, Ont. Completion of the program will put these facilities on a par with those of any other jet engine manufacturer.

production of demand for such consumer goods as textiles, shoes, apparel and many other products. Manufacturing forged ahead and by the end of the War was employing well over 1,000,000 workers, more than 25 p.c. of the labour force.

Contrary to the expectations of many, the postwar decade 1946-56 brought neither a reversal of the outstanding industrial progress of the war years nor any major setback. Reconversion from wartime to peacetime production was completed within two years, and most industries embarked upon programs of modernization and expansion. The outbreak of the Korean war in 1950, Canada's obligations under the NATO treaty, and heavy annual defence expenditures all served to stimulate industries in the fast-developing field of electronics, jet aircraft and engines, and shipbuilding. Full employment, immigration, a high birth rate—all made for strong and sustained consumer demand. Automobiles, radio and television sets, refrigerators and other electrical equipment and telephones were to be found in the great majority of Canadian homes by 1956.

The spectacular nature of manufacturing expansion since 1939 has committed Canada, decisively and irrevocably, to an industrial future. In fewer than twenty years the number of manufacturing establishments increased by more than 50 p.c. and the total number of workers in the industry by more than 100 p.c., as compared with a mere 10-p.c. increase in each case in the twenty-year period between the first and second world wars. As in the past, this sweeping industrial progress was bound up with the development of Canada's bountiful natural resources. Research, exploration and development in such fields as crude oil, natural gas, iron ore, non-ferrous metals and lesser metals created demand for equipment and consumer goods. The availability of an increased variety of indigenous raw materials led to the creation of more processing capacity as well as to the establishment of advanced raw-material and power-using industries. Foremost among these was the chemicals industry which became increasingly diversified.

This post-1939 transformation of the economy has made Canada, for all her small population, one of the leading industrial and trading nations of the world. The traditional conception of Canada as primarily an agrarian and rural country has lost all validity. Technological progress, increased efficiency and improved productivity having vastly reduced agriculture's dependence upon manpower in favour of the machine, the hands and skills



▲ The Argus production line. This aircraft which was designed to meet the threat of missile-carrying submarines, and the new military transport CL-66 Cosmopolitan constitute the key to a program of production of long-range turbo-power aircraft for the world's commercial airline market. ▲

Highlights of Canadian aircraft production in 1957 were the roll-outs of Canadair's CP-107 Argus Maritime Reconnaissance aircraft, the largest ever produced in Canada, and Avro Aircraft's CF-105 Arrow, a supersonic interceptor described as the ultimate in manned fighter aircraft. The industry is continually broadening its facilities and techniques to keep pace with the never-ending world challenge in this field.



The appearance in October of the Avro Arrow I climaxed a mass of engineering research and ventures in manufacturing techniques in many fields completely unknown when the project started in 1953. Literally millions of mathematical calculations were required and some 17,000 engineering drawings released during the designing and production of its 38,000 parts.

thus released have found employment in the more than 10,000 new manufacturing plants that have been built since 1945 in or near the cities and towns of Canada's ten provinces. Canada, in the process, has become a predominantly industrial and urban society.

The following table shows the long-term growth in Canadian manufacturing. These figures are reasonably comparable but, since they cover so long a period, allowances should be made for certain changes in information collected and in treatment of the data. For instance, in 1952 the collection of data on gross value of production was replaced by value of factory shipments. The former included all goods produced during the year irrespective of whether they were shipped from the factory during that year. The latter includes all goods leaving the plant during the year regardless of when produced. The difference is not great since most goods are shipped during the year in which they are manufactured. Gross values of production or shipments represent more than the actual contribution of the industry to the economy. They give the value of goods leaving the industry and therefore include all the work put into them at earlier stages of production.

Summary Statistics of Manufactures, 1917-56

Year	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value Added by Manufacture ¹	Gross Value of Products ²
	No.	No.	\$'000	\$'000	\$'000	\$'000
1917.....	21,845	606,523	497,802	1,539,679	1,281,132	2,820,811
1920.....	22,532	598,893	717,494	2,085,272	1,621,273	3,706,545
1929.....	22,216	666,531 ³	777,291	2,029,671	1,755,387	3,883,446
1933.....	23,780	468,658	436,248	967,789	919,671	1,954,076
1939.....	24,805	658,114	737,811	1,836,159	1,531,052	3,474,784
1940.....	25,513	762,244	920,873	2,449,722	1,942,471	4,529,173
1943.....	27,652	1,241,068	1,987,292	4,690,493	3,816,414	8,732,861
1945.....	29,050	1,119,372	1,845,773	4,473,669	3,564,316	8,250,369
1946.....	31,249	1,058,156	1,740,687	4,358,235	3,467,005	8,035,692
1947.....	32,734	1,131,750	2,085,926	5,534,280	4,292,056	10,081,027
1948.....	33,420	1,155,721	2,409,368	6,632,882	4,938,787	11,875,170
1949 ⁴	35,792	1,171,207	2,591,891	6,843,231	5,330,566	12,479,593
1950.....	35,942	1,183,297	2,771,267	7,538,535	5,942,058	13,817,526
1951.....	37,021	1,258,375	3,276,281	9,074,526	6,940,947	16,392,187
1952.....	37,929	1,288,382	3,637,620	9,146,172	7,443,533	16,982,687
1953.....	38,107	1,327,451	3,957,018	9,380,559	7,993,069	17,785,417
1954.....	38,028	1,267,966	3,896,688	9,241,858	7,902,124	17,554,528
1955.....	38,182	1,298,461	4,142,410	10,338,202	8,753,450	19,513,934
1956 ^p	—	1,364,163	4,600,943	11,698,222	—	21,849,415

¹ For 1924-51, value added by manufacture is computed by subtracting the cost of fuel, electricity and materials from the gross value of products; for 1952 and 1953 the deduction is made from value of factory shipments and for 1954 to 1956 from the calculated value of production. Figures prior to 1924 are not comparable since statistics for cost of electricity are not available.

² In 1952 gross value of products was replaced by value of factory shipments; see text above.

³ A change in the method of computing the number of wage earners in the years 1925-30 increased the number somewhat over that which the method otherwise used would have given. In 1931 the method in force prior to 1925 was re-adopted.

⁴ Newfoundland included from 1949 but figures for 1949 and 1950 exclude fish processing.

The index of the volume of manufacturing production indicates that production has been rising faster than employment since 1946. In that year the index was 189.9 compared with an average of 100.0 for the years 1935 to 1939; by 1955, it was 270.1 and in 1956 it was 285.9. Thus the increase was about 50 p.c. from 1946 to 1956 as compared with an advance of about 29 p.c. in employment in manufacturing.

Principal Statistics of the Fifteen Leading Industries, 1955

Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost of Materials Used	Value Added by Manu- facture	Selling Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000
Pulp and paper.....	125	62,205	265,298	546,079	689,818	1,326,938
Non-ferrous metal smelt- ing and refining.....	24	28,606	118,189	710,763	443,805	1,211,717
Petroleum products.....	61	13,340	57,892	642,872	373,368	1,048,834
Motor vehicles.....	15	33,429	134,662	631,181	269,602	907,411
Slaughtering and meat packing.....	153	23,655	83,007	627,480	178,579	809,468
Sawmills.....	7,333	58,586	152,557	338,870	296,940	644,483
Primary iron and steel...	50	32,507	136,879	212,288	291,793	526,318
Butter and cheese.....	1,423	20,444	56,671	315,926	103,070	427,092
Aircraft and parts.....	52	33,036	130,269	140,831	208,800	354,315
Miscellaneous electrical apparatus and supplies.	157	23,292	82,125	158,683	159,117	325,061
Rubber goods, including footwear.....	82	21,913	73,775	137,075	187,029	322,412
Miscellaneous food prep- arations.....	304	9,426	27,862	209,021	89,950	303,751
Bread and other bakery products.....	2,618	34,416	87,760	133,299	146,134	289,019
Motor vehicle parts.....	188	19,996	74,581	149,004	130,779	285,071
Printing and publishing...	789	29,855	107,844	75,020	197,779	275,160
Totals, Fifteen Leading Industries.....	13,374	444,706	1,589,371	5,028,392	3,766,563	9,057,050
Percentages of fifteen leading industries to all industries 1955.....	35.03	34.25	38.37	48.64	43.03	46.41

The above table gives principal statistics for 1955 of the fifteen industries with the largest values of factory shipments. Hundreds of new commodities have been added to the list of Canada's manufactures in the past decade but much the same group of industries hold the lead, although their positions are in some instances changed. Motor vehicles moved up ahead of slaughtering

HMCS Gatineau,
thirteenth anti-
submarine des-
troyer escort of
the Royal Cana-
dian Navy's cur-
rent sixteen-ship
program, gets her
first taste of water
on June 3, 1957,
as she swings into
the St. Lawrence
from the launch-
ing ways of a
Quebec shipyard.



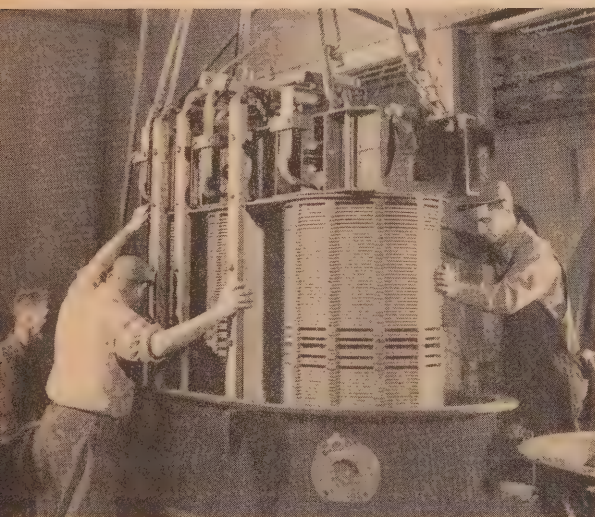


and meat packing, and primary iron and steel ahead of butter and cheese as compared with 1954. Miscellaneous electrical apparatus and supplies, rubber goods and miscellaneous food preparations also improved their positions, while motor vehicle parts moved into the top fifteen group at the expense of railway rolling-stock.

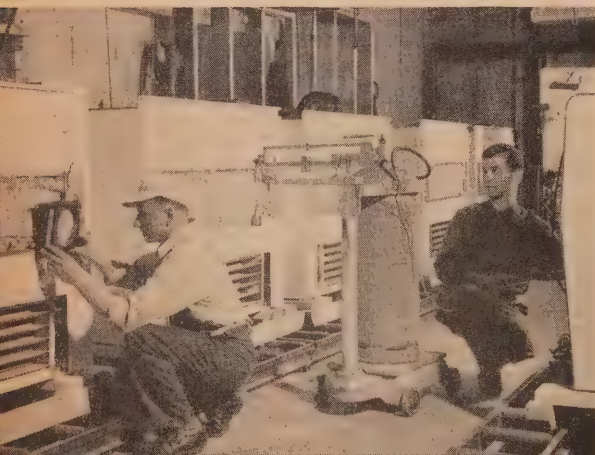


Provincial Distribution

Fully one-half of all Canadian manufacturing output is concentrated in **Ontario**, the country's industrial heartland, although the Province also has the largest number of occupied farms and is the leading producer of both minerals and furs. Ontario's industrial development has been largely influenced by its geographic location on the Great Lakes waterways within easy reach of Pennsylvania's coal and Minnesota's iron ore, both indispensable to Ontario's steel mills. The Province's excellent—and low cost—hydro-electric power resources, the diversity of raw materials to be had from farms, forests and mines and, not least, the fact that one-third of all Canadians live there, have been hardly less important factors in attracting industry.



Ontario has a greater diversification of manufacturing production than any other province and a number of important industries are carried on there exclusively. By value, the Province turns out 90 p.c. or more of Canadian production of motor vehicles and parts, heavy electrical machinery, agricultural implements, machine tools, starch and glucose, tobacco products, and soaps and washing products; between 80 and 90 p.c. of rubber goods,



The building and equipping of new homes and industrial plants, together with advances in the field of electronics and automation, have kept the electrical manufacturing industry increasing its capacity. Output in 1957, valued at \$1,132,000,000, was well over double that of 1947.

breakfast foods, wine, carpets, mats and rugs, cordage, rope and twine, tanned leather, electric batteries and artificial abrasives; and between 70 and 80 p.c. of primary iron and steel products, iron castings, scientific and professional equipment, wool yarn, white metal alloys, sporting goods, boiler and plate work, refrigerators, vacuum cleaners and toys and games.

Other industries in which more than 50 p.c. of the value of Canadian shipments come from Ontario are: fruit and vegetable preparations, sheet metal products, printing and book-binding, industrial machinery, aircraft and parts, furniture, radios and parts, flour and feed mills, acids, alkalies and salts, confectionery and knitted goods. Ontario also contributes to Canadian production considerably more than 25 p.c. of the value of shipments of the pulp and paper industry. By value, too, manufacturing accounts for nearly 70 p.c. of Ontario's total annual production. Preliminary statistics for 1956 show 641,000 manufacturing employees in the Province producing goods with a selling value in terms of factory shipments in excess of \$10,654,000,000, virtually half the national total.

Quebec, largest in area of Canada's ten provinces, ranks second only to Ontario in manufacturing production and mineral output, as in population. The Province accounts for over 30 p.c. of the value of Canadian manufactured goods, most manufacturing industries being concentrated in the fertile and strategic valley of the St. Lawrence. The most important single industry is pulp and paper, followed by non-ferrous metal smelting and refining. In terms of number of employees, however, Quebec's leading manufacturing industry is primary textiles, which



The production of sports and pleasure equipment is active in this great land of out-of-doors—fishing tackle, small pleasure craft, outboard motors, skates and many other items which the vacationer and sportsman enjoys.

includes production of cottons, woollens, synthetic fibres and fabrics, hosiery, knitted goods, and the dyeing and finishing of textiles. The fast-growing aluminum industry also is a major factor in the Province's manufacturing production.

As with Ontario, a high proportion of total Canadian production in a number of industries is concentrated in Quebec. In addition to those industries already mentioned, others playing a key role in the economy of the Province include iron ore, asbestos, petroleum products, tobacco products, leather footwear, slaughtering and meat packing, processed cheese, electrical apparatus, railway rolling-stock and aircraft and parts. Preliminary statistics for 1956 show 452,000 employees in manufacturing industry; selling value of the factory shipments of goods they produced exceeded \$6,736,000,000.

British Columbia, most westerly of Canada's provinces, ranks third in manufacturing production, as in area and population. Rich in raw materials, its forest resources, minerals, fisheries and electric power are the foundation of a rapidly increasing number of manufacturing industries. Chief among these are industries deriving from forest resources—sawmills, pulp and paper, veneers and plywoods, sash, door and planing mills, accounting among them for nearly half of British Columbia's manufacturing employment and production. Other leading industries include petroleum products, fish processing, slaughtering and meat packing, shipbuilding, food preparations, fertilizers, printing and publishing, bread and other bakery products. Preliminary figures for 1956 show 110,000 employees in manufacturing industry; selling value of factory shipments during the year exceeded \$1,904,000,000.

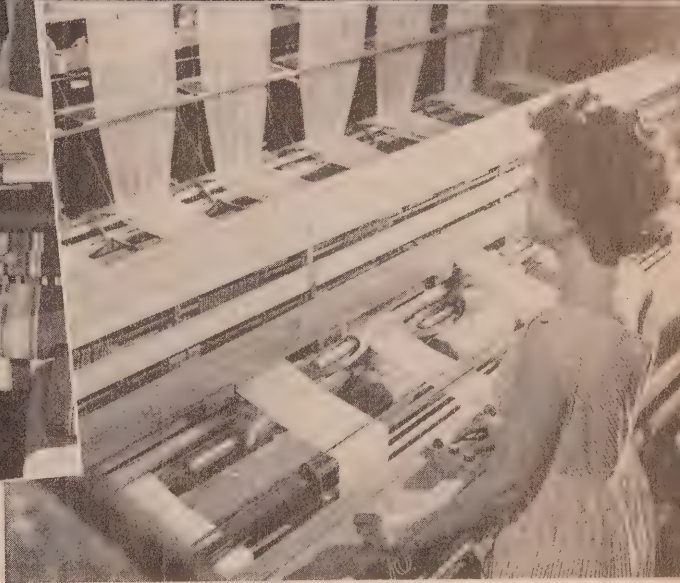
Although Ontario, Quebec and British Columbia account among them for close to 90 p.c. of total Canadian manufacturing production and employment, the other seven provinces also have shared to some extent in the mushroom-growth of the manufacturing industry since 1939. In Manitoba, New Brunswick, Nova Scotia and Newfoundland, manufacturing ranks as the leading industry, while in Alberta, Saskatchewan and Prince Edward Island it is assuming steadily increasing importance.

Statistics of Manufactures by Province, 1955

NOTE.—Values are rounded to the nearest thousand.

Province or Territory	Estab-lish-ments	Em-ployees	Salaries and Wages	Cost of Fuel and Elec-tricity	Cost of Materials Used	Value Added by Manu-facture	Selling Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$'000
Nfld.....	785	10,361	28,604	5,446	49,915	60,587	115,579
P.E.I.....	204	1,769	3,074	383	16,803	6,432	23,629
N.S.....	1,524	30,218	76,556	10,662	175,194	139,646	331,130
N.B.....	1,052	22,434	56,683	12,458	160,905	120,808	294,829
Que.....	12,194	429,575	1,271,078	159,456	3,152,541	2,622,333	5,922,367
Ont.....	13,276	613,872	2,088,906	202,930	5,014,225	4,426,655	9,617,643
Man.....	1,549	41,318	121,719	11,440	329,699	247,472	588,351
Sask.....	960	11,490	34,826	7,782	174,079	113,599	295,162
Alta.....	2,126	34,846	106,549	12,496	366,023	263,309	641,148
B.C.....	4,486	102,408	353,811	34,555	895,974	750,877	1,679,345
Yukon and N.W.T..	26	170	604	181	2,844	1,732	4,751
Canada.	38,182	1,298,461	4,142,410	457,789	10,338,202	8,753,450	19,513,934

Textiles make up one of the chief items of Quebec's economy and are also of major importance to many communities in Ontario and the Maritimes. The labour content of the industry is very high—primary and secondary textiles employ over 20 p.c. of all manufacturing labour.



Textile mills have poured millions of dollars into new equipment and facilities to modernize production and cut unit costs but the industry is at present faced with many economic difficulties.

Preliminary Statistics of Manufactures by Province, 1956

NOTE.—Values are rounded to the nearest thousand.

Province or Territory	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials Used	Selling Value of Factory Shipments
	No.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	10,680	30,663	7,016	55,475	123,780
Prince Edward Island.....	1,865	3,358	456	18,930	25,814
Nova Scotia.....	31,558	83,254	12,221	223,178	395,700
New Brunswick.....	23,340	62,953	14,724	181,070	323,931
Quebec.....	452,845	1,416,189	180,924	3,627,741	6,736,353
Ontario.....	641,371	2,308,315	225,834	5,625,666	10,653,912
Manitoba.....	42,711	133,244	14,130	363,766	676,660
Saskatchewan.....	11,768	37,274	8,091	176,388	301,033
Alberta.....	37,571	120,966	13,131	409,438	701,768
British Columbia.....	110,253	404,080	43,644	1,013,429	1,904,844
Yukon and Northwest Territories	201	647	300	3,141	5,620
Canada.....	1,364,163	4,600,943	520,471	11,698,222	21,849,415

Manufacturing in Urban Centres.—The prosperity of most of the cities and towns of Canada is intimately connected with their manufacturing industries which provide employment for a large proportion of the labour forces. The following table gives the principal statistics for those urban centres in which manufacturers shipped goods to the value of more than \$100,000,000 in 1955.

**Urban Centres with Value of Factory Shipments of
Over \$100,000,000 in 1955**

NOTE.—Statistics for urban centres cannot be published when one establishment has 75 p.c. or more, or two establishments have 90 p.c. or more, of the total production.

Urban Centre	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials Used	Selling Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000
Montreal, Que.....	4,379	176,998	529,340	19,553	1,021,717	1,963,367
Toronto, Ont.....	3,497	134,235	448,776	18,789	916,494	1,732,099
Hamilton, Ont.....	588	55,202	200,311	24,808	395,047	844,835
Montreal East, Que.....	37	6,200	24,539	16,072	426,710	608,723
Vancouver, B.C.....	1,330	34,683	120,488	5,757	276,666	489,181
Windsor, Ont.....	334	25,654	101,810	4,976	186,275	374,512
Sarnia, Ont.....	52	7,003	28,563	14,430	155,909	309,416
Winnipeg, Man.....	873	26,392	75,282	3,541	152,575	291,085
Kitchener, Ont.....	204	14,635	46,600	2,197	101,562	208,062
London, Ont.....	295	15,622	48,978	2,421	93,865	198,568
Quebec, Que.....	428	16,318	43,545	5,950	92,034	193,754
New Toronto, Ont.....	40	7,024	28,501	1,960	97,948	187,316
Edmonton, Alta.....	384	11,363	35,068	1,498	113,943	185,379
St. Laurent, Que.....	70	14,434	53,992	1,755	58,456	159,927
Calgary, Alta.....	340	9,204	29,679	1,585	96,954	158,287
Lachine, Que.....	76	11,709	43,105	1,721	73,742	154,785
Sault Ste. Marie, Ont....	55	8,417	35,624	7,727	67,890	139,609
New Westminster, B.C....	130	8,116	28,505	1,608	73,674	137,527
Brantford, Ont.....	165	10,891	34,764	1,823	67,065	127,624
St. Boniface, Man.....	96	4,581	15,433	1,412	93,130	125,244
Shawinigan Falls, Que....	46	5,834	21,338	9,835	49,519	124,763
Leaside, Ont.....	50	7,612	26,825	1,116	61,959	122,364
Three Rivers, Que.....	90	7,808	24,523	7,655	51,821	120,017
Peterborough, Ont.....	95	9,662	33,930	1,266	64,900	117,597
La Salle, Que.....	50	5,405	18,601	3,048	57,266	110,279
Ottawa, Ont.....	310	10,302	31,304	2,045	48,115	108,319
Kingston, Ont.....	73	6,310	21,406	1,622	53,672	102,807



Winnipeg's diversity of manufactured products includes intercity, suburban and sightseeing buses as well as heavy-duty automotive parts. Manufacturing firms employ 30 p.c. of the total working force of Manitoba.

The Economy in 1957

GROSS national product, which is a measure of the market value of all goods and services produced in Canada, continued to rise in 1957 and, at an estimated \$31,100,000,000, was 3 to 4 p.c. higher than in 1956. This increase represents a distinct slowing down in the extraordinarily rapid rates of advance characteristic of the two preceding years. While wholesale prices moved gently downward during the year, prices in markets for final products continued to rise. Thus, almost all the rise in the value of the nation's output of goods and services was attributable to higher prices. The unchanged physical volume of output in 1957 compares with increases of 7 p.c. in 1956 and 9 p.c. in 1955. Agricultural production in 1957 was substantially reduced by reason of a smaller crop. Thus the unchanged total output represents a slight gain in the non-farm sector.

While demand remained high in 1957, the strong expansionary forces present in almost every sector of the economy in the two previous years gave way to mixed and conflicting trends. Business expenditures for plant and equipment continued to rise but at a much lower rate. Investment in business inventories was considerably smaller and residential construction was lower than in 1956. International markets for some primary commodities weakened, with the result that the value of commodity exports remained about the same. Personal income continued to rise in response to increased employment, higher wage rates and larger transfer payments, thus providing the basis for an expansion in consumer spending. However, consumer purchases of durable goods were a little lower than in the previous year. Reflecting the easing pressure of demand, commodity imports showed a tendency to decline during the course of the year, following nearly three years of steady advance. Thus the deficit on international current account was not much changed, after having risen sharply in the two preceding years.

The changing composition of demand between and within sectors was reflected in the structure of prices and in the patterns of production and employment.

Demand and Prices.—Business expenditures for plant and equipment in 1957 rose above the extremely high level of 1956 by about 14 p.c. and represented the highest proportion of total expenditure ever recorded. One of the year's notable developments was a decided slackening in the rapid rate of increase in such expenditure, which had perhaps been the distinguishing characteristic of the previous year. The bulk of the increase in this type of investment was in non-residential construction; outlays for machinery and equipment were not much higher than in 1956.

In 1957, as in the two previous years, investment related to resource development was of major importance. These investments were undertaken to create extensive new capacity in oil and natural gas, uranium, iron ore, pulp and paper, non-ferrous metals, electric energy, transportation and communication. This high level of investment reflected both projects launched during the year and a large number of projects started in earlier years. For example, expenditures on two major projects, the St. Lawrence Seaway and the Trans-Canada pipeline, were moving toward their peak in 1957.



A giant in virgin forest. A new aluminum smelter at Baie Comeau, a port on the north shore of the St. Lawrence 250 miles below Quebec City, started production early in 1958. The site was chosen because it satisfied the basic requirements of easy access to the sea and huge quantities of nearby power. The smelter's capacity will be 45,000 tons annually.

Expenditures on residential construction in 1957 were significantly lower than in 1956, despite the fact that housing starts in the fourth quarter had risen to nearly 150,000 units from about 86,000 in the first quarter. The decline in housing starts had begun in the last quarter of 1955, but the carry-over of houses under construction from previous high rates of building raised the value of residential construction in 1956. The tightening and subsequent liberalization of mortgage credit influenced housing demand over the period.

The building-up of stocks was a considerably less important element in the business situation in 1957 than in 1956. The rate of investment in business inventories was less than half that of the previous year. The declining rate of investment was general among the industries, but was most pronounced in manufacturing.

World trade did not expand as rapidly in 1957 as in the two preceding years, and world markets for some raw and processed materials deteriorated. Canada's commodity exports were exposed to a variety of conflicting and offsetting influences, and the total remained much the same as in the previous year. Lower sales of wheat caused a major decline in exports of farm products, though it was partially offset by higher sales of livestock and other products. Exports of forest products were only moderately lower, since the weakening in markets for lumber and wood pulp was largely offset by further expansion in exports of newsprint and other products. Trends in exports of primary and semi-processed metals and minerals were extremely varied. The most important single factor tending to raise the level of exports in this category

was the enormous expansion in exports of uranium, a consequence of the creation of new productive facilities in the industry. There were increases in sales of crude petroleum, iron ore, asbestos and some others; copper, lead and zinc were among the major metals showing a significant decline. Trends in exports of manufactured products were likewise varied.

The demand for imports remained high in 1957, and although there was a declining tendency during the year, commodity imports for the year as a whole were about the same as in 1956. This relative stability, following previous rapid expansion, is related to the levelling off in investment in machinery and equipment, the lower rate of investment in business inventories and slightly lower purchases of consumer durables.

Thus the imbalance on commodity trade, though still high, was narrowing during the year. However, the deficit on invisible items was larger, with the result that the deficit on international current account was slightly in excess of that of the previous year. The deficit was met by a continued net inflow of capital funds but this inflow declined during the year, as evidenced by lower sales of new issues in the United States. The premium on the Canadian dollar fell some 2 p.c.

Personal income, which rose by about 6 p.c., provided the basis for a roughly equivalent expansion in consumer spending, the larger part of which represented the higher prices of consumer goods. All the increase in consumer spending was devoted to non-durables and services. Purchases of durables were a little lower than in 1956 and, with the rise in consumer prices in this sector, this expenditure represented a decline in actual purchasing. The major part of this decline was accounted for by sales of new automobiles which were down in number by 7 p.c. Durables, especially automobiles, are normally financed by credit and during the course of 1957 the rapid rate of expansion in consumer credit outstanding, characteristic of 1956, slackened appreciably and by the closing months of 1957 consumer credit outstanding on the books of instalment finance companies was very little higher than a year earlier.

Drilling blast holes in the Sullivan mine at Kimberley, B.C., the largest lead-zinc-silver mine in the world. Ore from this mine is smelted at Trail where the large scale of operation and extensive research facilities have made possible the by-product production of antimony, bismuth, cadmium, tin and indium.



Prices in retail markets continued to rise in 1957, as earlier increases in costs were passed on to the consumer. Whereas in 1956 the impact of higher prices fell mainly on the sector of capital goods, in 1957 the chief impact was in the consumer sector. The largest price increase was in services, followed by durables and non-durables in that order. Prices of exports and imports were both slightly higher, which compared with somewhat larger increases in the previous year.

The general advance in retail prices was accompanied by a slight easing in wholesale prices. The general index reached its peak in January of 1957 and by the end of the year had receded 1.5 p.c., but the components of the index showed sharply divergent trends. The index of prices of raw and partly manufactured goods had reached its peak some six months earlier and by the end of 1957 had fallen 6 p.c. The fall in prices of non-ferrous metals, 18 p.c., was the most pronounced; prices of lumber and timber fell only about 8 p.c. from their mid-1956 peak. Among the components which were higher in 1957, sometimes despite mixed trends within the year, were iron and its products, non-metallic minerals and chemicals.

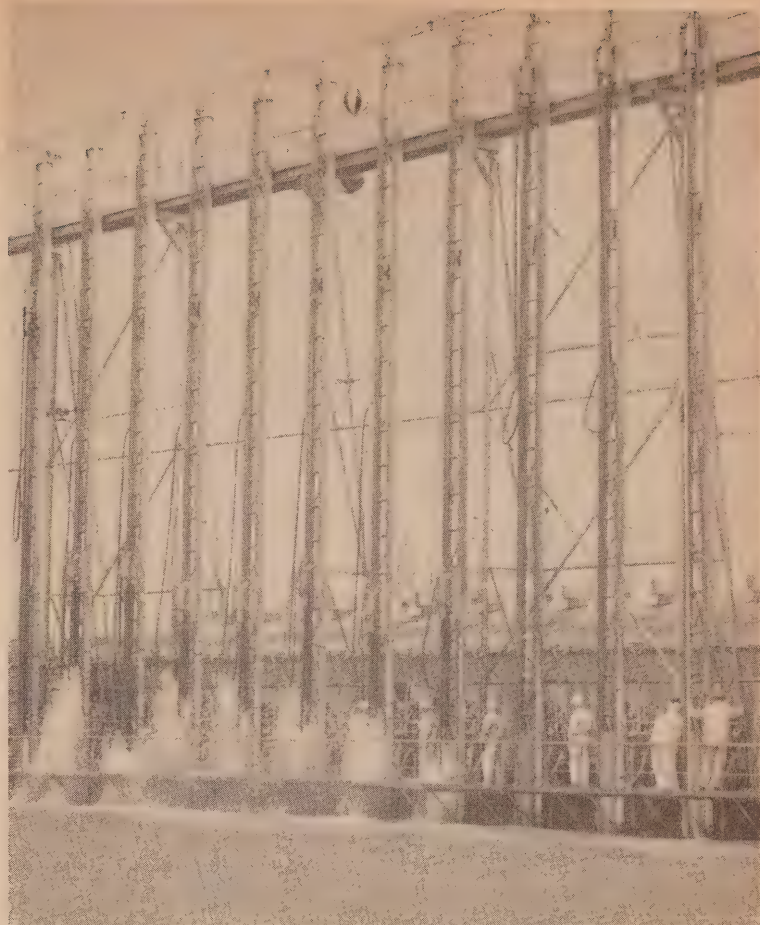
Production and Employment.—Unchanged production in 1957 was the outcome of mixed and offsetting movements in the main industrial groups. Production was generally lower in the primary industries, with the major part of the decline occurring in agriculture as a consequence of the smaller grain crop. Forestry was also lower because of the deterioration in markets for lumber and wood pulp, but mining was higher, with large increases in metals and fuels and a comparatively small decline in non-metallics. Among the metals, uranium, iron ore and nickel accounted for the advance in output, since production of other major metals was lower. Similarly in the fuels, increases in crude oil and natural gas more than counterbalanced the drop in coal mining.

The easing pressure of demand in the domestic market for capital goods and some durable consumer goods and in external markets for some primary products resulted in a somewhat lower level of output in manufacturing.



More than one-quarter of the average family income is spent on food. In 1957 income went up 6 p.c. and expenditures on food kept pace. Although part of the increase in the grocery bill was for more and better-quality food, two-thirds of it was accounted for by higher prices.

A unique 160-ft. steel and aluminum drill boat holding twenty large rotary drills was built at Ojibway, Ont., at a cost of \$750,000. It is being used by United States firms engaged in deepening the 130 miles of navigable waterways between Lakes Superior and Huron, Lakes Huron and Michigan, and Lakes Huron and Erie—part of the St. Lawrence Seaway project.



In the non-durable group of industries, the changes were for the most part small and the net effect of conflicting trends was a modest gain in output. Losses were fairly widespread among the durable group, with the sharpest declines taking place in wood products, non-ferrous metals, electrical apparatus and supplies, and iron and steel products.

Electric and gas utilities production was higher in 1957 than in 1956; the output of the construction industry was also higher, the gain in non-residential construction more than counterbalancing the decline in house construction; and most segments of the service industries reached higher levels, the principal exception being transportation which suffered a distinct drop in freight traffic.

Unchanged levels of production were accompanied by a continued rise in employment. The number of persons with jobs averaged 5,661,000, compared with 5,526,000 in 1956, of whom 4,915,000 were employed in the non-agricultural sector compared with 4,752,000 in 1956. It was the service industries that accounted for the major part of the expansion in total employment.

The labour force in 1957 numbered 5,915,000 persons, 210,000 more than in 1956. This unusually large growth was partly a consequence of heavy immigration but the proportion of the adult population in the labour force in 1957 continued upward. Thus, despite the 2.4-p.c. increase in employment, the number of persons without jobs and seeking work was substantially higher and averaged 4.3 p.c. of the labour force compared with 3.1 p.c. in 1956.



The thousands of new manufacturing plants and new branches of existing companies that have been established throughout the country in the past ten years have added a great many items to the list of commodities produced in Canada. This new plant in the Toronto area, manufacturing chain saws and outboard motors, started production in mid-1957. The building was designed for easy expansion.

National and Personal Income.—The developments described above were associated with shifts in the flow of income. The 3-p.c. rise in national income was the result of a further substantial advance in labour income, partially offset by a sharp drop in farm income and a moderate fall in investment income, which in turn reflected lower corporate profits.

With some rise in employment and further advances in wage rates, labour income was more than 7 p.c. higher than in 1956, compared with an 11-p.c. increase in the previous year. It was in the finance and service group (which includes government) and in the distributive group (utilities, transportation, storage, communications and trade) that the major part of the expansion in employment took place in 1957. Labour income in manufacturing was about 5 p.c. higher, even though a small increase in employment was largely offset by shorter hours of work. The rise in labour income in the construction industry of about 4 p.c. was small by comparison with the impressive gains recorded for this industry in the two previous years. Forestry was the only major industry in which labour income declined.

Corporate profits fell by about 7 p.c. and, with a further substantial advance in dividends paid abroad, corporate profits retained in Canada

were lower by about 10 p.c. The trend toward lower profits was fairly widespread among the industries but was most pronounced in the wood products and non-ferrous divisions of manufacturing and in the mining industry. The deterioration in markets for some of the products of these industries adversely affected corporate earnings. On the other hand, interest and rents were higher, so that investment income as a whole fell only about 2 p.c.

The much smaller crop of grains in the Prairie Provinces was largely responsible for a pronounced drop in farm income. Income of other unincorporated business was slightly higher.

National Income, Gross National Product and Gross National Expenditure. Selected Years 1939-57

(Millions of Dollars)

NOTE.—All figures in this table are subject to revision.

Item	1939	1946	1950	1954	1955	1956	1957
Income							
Wages, salaries and supplementary labour income.....	2,575	5,323	8,311	11,994	12,810	14,284	15,344
Military pay and allowances....	32	340	137	367	394	424	476
Investment income.....	917	1,975	3,155	3,661	4,339	4,782	4,660
Accrued net income of farm operators from farm production ¹ ...	385	1,112	1,503	1,147	1,404	1,546	1,146
Net income of non-farm unincorporated business.....	464	1,071	1,444	1,625	1,793	1,951	1,981
Net National Income at Factor Ccst.	4,373	9,821	14,550	18,794	20,740	22,987	23,607
Indirect taxes less subsidies....	733	1,269	2,018	2,947	3,238	3,601	3,802
Depreciation allowances, and similar business costs.....	610	903	1,636	2,673	2,956	3,275	3,549
Residual error of estimate.....	-9	33	-1	-78	20	123	108
Gross National Product at Market Prices.....	5,707	12,026	18,203	24,336	26,954	29,986	31,066
Expenditure							
Personal expenditure on goods and services.....	3,904	7,977	12,029	15,881	17,139	18,556	19,526
Government expenditure on goods and services.....	735	1,832	2,326	4,413	4,728	5,209	5,542
Gross Domestic Investment—							
New residential construction..	185	371	801	1,166	1,480	1,554	1,391
New non-residential construction.....	166	443	1,026	1,659	1,848	2,589	3,233
New machinery and equipment	254	584	1,389	1,841	1,947	2,621	2,692
Change in inventories.....	331	519	960	-275	510	939	173
Exports of goods and services...	1,451	3,210	4,183	5,147	5,764	6,339	6,375
Less: Imports of goods and services.....	-1,328	-2,878	-4,513	-5,574	-6,443	-7,697	-7,758
Residual error of estimate.....	9	-32	2	78	-19	-124	-108
Gross National Expenditure at Market Prices.....	5,707	12,026	18,203	24,336	26,954	29,986	31,066

¹ Includes undistributed Wheat Board trading profits and an inventory valuation adjustment on a calendar-year basis for grain held by the Canadian Wheat Board.

Personal income, in rising about 6 p.c., made a significantly larger gain than national income, a difference mainly attributable to the increase in transfer payments. Rates of payment under the family allowance and old

age security schemes were raised during the course of the year and a new transfer payment out of oil royalties was introduced in the Province of Alberta; the larger volume of unemployment, together with some extension of benefits, raised the level of unemployment benefits. Taxation absorbed a somewhat larger proportion of personal income than in 1956, leaving income at the disposal of consumers for spending higher by 5 p.c.

Source and Disposition of Personal Income, Selected Years 1939-57

(Millions of Dollars)

NOTE.—All figures in this table are subject to revision.

Source and Disposition	1939	1946	1950	1954	1955	1956	1957
Source							
Wages, salaries and supplementary labour income.....	2,575	5,323	8,311	11,994	12,810	14,284	15,344
Less: Employer and employee contributions to social insurance and government pension funds.....	-35	-149	-256	-396	-423	-464	-511
Military pay and allowances.....	32	340	137	367	394	424	476
Net income received by farm operators from farm production ¹	435	1,090	1,402	1,151	1,382	1,526	1,153
Net income of non-farm unincorporated business.....	464	1,071	1,444	1,625	1,793	1,951	1,981
Interest, dividends and net rental income of persons.....	602	957	1,295	1,783	1,957	2,097	2,271
Transfer Payments to Persons—							
From Governments (excluding interest)	229	1,106	1,033	1,634	1,731	1,765	2,083
Charitable contributions by corporations.....	6	12	25	25	31	35	32
Net bad debt losses of corporations....	12	11	23	26	26	26	26
Personal Income.....	4,320	9,761	13,414	18,209	19,701	21,644	22,855
Disposition							
Personal Direct Taxes—							
Income taxes.....	62	711	612	1,296	1,297	1,495	1,690
Succession duties.....	28	54	66	78	127	146	127
Miscellaneous.....	22	31	62	63	67	79	90
Total Personal Direct Taxes.....	112	796	740	1,437	1,491	1,720	1,907
Personal Expenditure on Consumer Goods and Services—							
Non-durable goods.....	2,210	5,073	7,241	8,997	9,673	10,513	11,050
Durable goods.....	292	590	1,343	1,694	1,919	2,061	2,038
Services.....	1,402	2,314	3,445	5,190	5,547	5,982	6,438
Total Personal Expenditure on Consumer Goods and Services.....	3,904	7,977	12,029	15,881	17,139	18,556	19,526
Personal Saving—							
Personal saving excluding farm inventory change.....	244	1,045	514	1,006	860	1,199	1,603
Farm inventory change.....	60	-57	131	-115	211	169	-181
Total Personal Saving.....	304	988	645	891	1,071	1,368	1,422
Personal Income.....	4,320	9,761	13,414	18,209	19,701	21,644	22,855
Personal Disposable Income².....	4,208	8,965	12,674	16,772	18,210	19,924	20,948

¹ This item differs from item four in the preceding table in that it excludes undistributed Wheat Board trading profits and the inventory valuation adjustment for grain held by the Canadian Wheat Board.

² Personal income less total personal direct taxes.



The St. Lawrence Power Project will produce its first power in July 1958 and be completed in 1960. The engineering and construction forces of Ontario Hydro and the Power Authority of the State of New York are working side by side on adjacent powerhouses merging at the international boundary in the middle of the river. Together they will contain 32 generators with a capacity of 2,200,000 h.p. This tremendous engineering job, pictured above as it will appear on completion, has caught the imagination of people everywhere; 820,000 visitors inspected the development through conducted tours in 1957.





Malak

The drama of the St. Lawrence Seaway unfolds as the first vessel enters the first completed lock on Nov. 22, 1957. The Iroquois Lock, the most westerly of seven being built for the Seaway, will provide access between the power pool and the Thousand Islands section of the river leading westward to Lake Ontario. The entire waterway will be ready for use by the opening of the navigation season of 1959.

Transport and Trade

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Transportation

TRANSPORTATION in Canada was not developed simply to serve commerce, although that has now become its main function. It was in the first instance a political and sociological necessity exercised to fulfil the requirements of Confederation and bind together a few isolated settlements scattered over a vast area of land. The very special problems of distance and excessive emptiness of large areas, which do not exist in many other lands, are still present in Canada, and the fact that this country is supplied with such a wide variety of efficient and up-to-the-minute transport services, which are increasing constantly with the increasing variety of the Canadian economic scene, is a credit to the energy and foresight of the builders.

Since the early days of settlement, movement of goods and people has relied, in turn, on the myriad waterways, the ribbons of steel, the local roads and then on the air itself. The present problem is the creating of long-distance highway facilities. All four forms of transportation are vital to Canada, each paramount in its own field. The fast-moving pace of business today requires a fast-moving service across thousands of miles of territory which only aircraft can supply. Bulk freight such as iron ore, grain, lumber or heavy machinery requires large carriers and therefore travels by boat or rail. Packaged goods move by rail or highway, depending mainly on choice or destination. The nature of Canada's economy, the nature of its major trade goods, the location of its productive and industrial regions determine the method of transportation required. It is the overlapping sectors where all four methods are in operation that provide the competition which keeps these services alive to the necessity of providing the best accommodation for both passengers and freight.

The railways continue to be the country's principal facility of mass movement since only they are able to supply all-weather transportation in

large volume over continental distances. Progressive programs of renewing equipment and techniques preclude any serious challenge to their supremacy. Air service is increasing continually, more than forty licensed scheduled services criss-crossing the nation and connecting the larger centres. At the same time, hundreds of non-scheduled services ferry passengers and freight between settlements and outposts and perform a multitude of charter services. Indeed, were it not for these airlines, exploration, settlement and life itself would be hampered if not impossible in the far reaches of the North. Low-cost bulk movement of goods by water, always of importance in this country of great inland waterways and long coastlines, will become vastly more important on completion of the St. Lawrence Seaway in 1959. Though Canadian highways still lag behind demand, large sums are being spent on construction and improvement to facilitate the movement of the automobile, the bus and the truck which have become essential mediums of freight and passenger transport. The construction of oil and gas pipelines has provided low-cost means of transporting these products to larger markets.

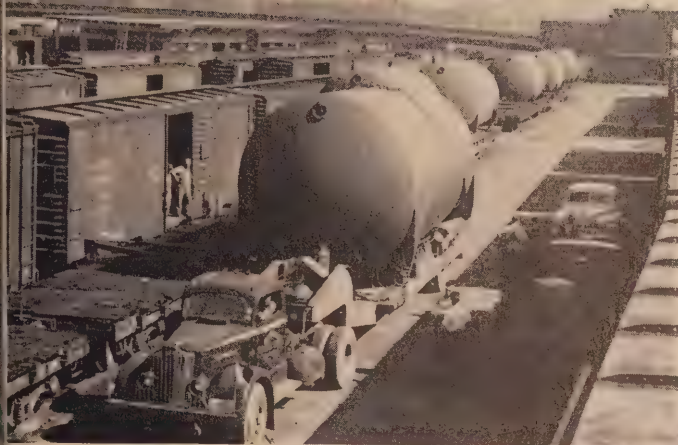
Railways

Two great transcontinental railway systems operate almost all of the railway facilities in Canada—the Canadian National Railway System, a government-owned body, and the Canadian Pacific Railway Company, a joint stock corporation. These systems, though highly competitive, still co-operate in many fields where duplication of service is not profitable. Both



Passengers on Canadian railways travel with speed, comfort and safety.

MOVING THE NATION'S GOODS



▲ A piggy-back service is now in operation in both directions between Montreal and Toronto, carrying trailers of a number of trucking firms. Fast over-night service permits pick-up of trailers after the close of business one day and their delivery in the other city before the start of business the next.

▲ The freight train is the most versatile of the common carriers and moves by far the largest part of Canada's production—everything from steel storage tanks to corn-flakes.



► Millions of parcels move through Canada's largest express depot at Toronto, boosted along by automation. Wearing headsets, sorters dictate waybill instructions to a tape-recording console as the packages move onward to their respective express cars. By the time the cars are loaded the recordings have been played back to the billers and the waybills are ready to accompany the express.



systems, in addition to their wide-flung railway and express operations and their extensive maintenance services, conduct other transport facilities—fleets of inland and coastal vessels and ferries, ocean-going steamships, nationwide telegraph services providing communication between all principal points of Canada with connections to all parts of the world, highway transport services, year-round and resort hotels, and extensive passenger and freight air services throughout Canada, across the north Atlantic to the United Kingdom, to Portugal and Spain, to the Caribbean, to points in the United States, to Mexico and South America, to the Antipodes and the Orient and across the Arctic from Vancouver to Amsterdam.

Their rail services operated over 39,773 miles of the 44,769 single-track mileage in 1956. Gross operating revenues amounted to \$1,228,927,347 and operating expenses to \$1,110,163,587 in 1956 compared with \$1,048,652,747 and \$949,608,169 in 1955. The 68,030,759,000 ton-miles of revenue freight handled by the two companies in 1956 was an increase of 10,747,677,000 ton-miles as compared with 1955 and passengers carried numbered 23,434,761 compared with 24,814,058.

Both railway companies continue to invest in new plant facilities and to enlarge and modernize existing equipment and services. Diesel locomotives are quickly replacing steam locomotives, new freight cars of all types are being added to the rolling-stock, many of them devised for special purpose hauling, self-propelled rail diesel cars are cutting down costs on short runs. The railways continue to assist in Canada's development by laying track into undeveloped regions. During 1957, the CNR completed a 161-mile line from Beattyville to Chibougamau in the mineral-rich area of central Quebec and a 22-mile branch line in New Brunswick for the transport of mineral ores. The newly constructed 30-mile branch line to the great new nickel deposits in northern Manitoba also became part of the CNR. An outstanding development in commodity hauling in 1957 was the inaugurating of common carrier piggy-back service between Montreal and Toronto. This new service was announced jointly by the two companies but operations are competitive. New buildings, enlarged and improved yard facilities and repair shops are part of the effort to keep abreast of modern demands, as well as intensive programs of office mechanization and continuing systems of employee-training.

The Board of Transport Commissioners for Canada controls railway freight and passenger rates and makes rules and regulations relating to railroad construction, operation and safety.

Urban Transit Services

Transit services in the urban centres of Canada, as in most other countries, are faced with increasing difficulty of operation. The much greater use of private motor vehicles within the towns and cities and to and from the newly developed suburban areas has cut down tremendously the number of passengers carried in public conveyances. The transit services are at the same time faced with increasing costs of operation and much greater milages to service. Attempts to cover the added expenditure by higher fares have tended to defeat their own purpose by discouraging the once profitable short-haul city traffic.

The public conveyance system in Calgary, Alta., uses trolley coaches and buses and, like most other urban transit systems, is municipally owned. Difficulties of operation have made such utilities unprofitable for private ownership.



In 1956, urban transit systems, almost all of which are municipally owned, carried 1,174,547,450 passengers as compared with 1,211,639,415 in 1955, continuing the downward trend in evidence since 1949. Most of these passengers were carried by motor bus and electric trolley coach, since the use of electric railways is declining. The Toronto subway carried 36,224,003 passengers in 1956.

Highways and Roads

The populated sections of Canada are well supplied with highways and roads. The heavy expenditures on construction in the past several years have been concentrated on rebuilding and improving existing arteries that they might be adequate to carry the ever-increasing stream of passenger and freight traffic. Many heavily travelled areas are now traversed by double-lane expressways or modern, straight-line highways.

Because of weather conditions in this country, the maintenance of roads is a recurring and expensive problem which, along with the shortness of the construction season, puts a tremendous strain on road-building facilities. The provision of roads outside of the municipalities is the responsibility of the provincial governments, except for those within federally administered territories such as the national parks and the northern Territories. At the end of 1955 there were 455,404 miles of road in Canada, 200,090 miles of which were surfaced. Expenditures on construction and maintenance of roads, bridges, ferries and other works that year amounted to \$513,852,270 and estimates for 1956 and 1957 were \$700,000,000 and \$860,000,000, respectively. Altogether about \$3,200,000,000 has been spent on road building in Canada since the end of the War.

A special effort is being made to complete the 4,469-mile Trans-Canada Highway, a \$500,000,000 project being built by the provincial governments with federal financial assistance, now about two-thirds complete. The



▲
Super highways stretch across the Ontario countryside, carrying their ever-increasing burden of traffic.

◀
Lobster traps are a familiar sight to travellers on the coastal highways of Nova Scotia.

objective is a paved highway, coast-to-coast, by the end of 1960. Except for 56 miles between Clarendville and Gambo on Newfoundland's east coast, it is now possible to travel across the country on Canadian roads, but much of this distance is older road integrated into the system. Also, a 164-mile gap across northern Ontario and a 97-mile gap in British Columbia must be skirted by taking other roads. By mid-1957, 2,835 miles of the Highway had been paved, but only 1,626 miles met with Trans-Canada standards. During the year, Saskatchewan completed its portion of the Highway, a total of 406 miles.

Motor Vehicles

Motor vehicle registrations continue to increase year by year—during 1956 reaching a record of 4,230,647 compared with 3,948,652 in 1955. Of the total, 3,187,099 were for passenger cars—one for every five Canadians—and 1,043,548 were for commercial vehicles including 980,019 trucks, 12,245 buses, 35,580 motorcycles and 15,704 other types. Registrations in the different

provinces were: Newfoundland, 45,768; Prince Edward Island, 20,779; Nova Scotia, 151,764; New Brunswick, 110,963; Quebec, 824,908; Ontario, 1,710,240; Manitoba, 238,021; Saskatchewan, 291,053; Alberta, 381,153; British Columbia, 450,547; and the Yukon and Northwest Territories, 5,451.

Provincial revenues from vehicle registrations and licences also reached a new high at \$127,730,042, \$14,200,000 more than in 1955. Gasoline tax revenues rose to \$294,793,873, derived from the sale of 2,456,988,356 gal., most of which was consumed by motor vehicles.

The apparent supply of new passenger vehicles in 1956 amounted to 425,964 cars, 28,134 more than in 1955. The 1956 number included 349,809 cars manufactured in Canada and 76,155 imported cars. In that year 407,710 passenger cars were sold, valued at \$1,127,523,000, as well as 91,660 trucks and buses valued at \$326,690,000. Finance companies provided loans for 45.0 p.c. of the number and 35.8 p.c. of the value of these vehicles. The average loan provided was \$2,316.

Motor Transport.—The extension and improvement of Canadian highways and technical improvements in equipment have encouraged a continuous expansion in freight and passenger carriage on the roads. High-speed expressways and regular schedules operated by the carriers have vaulted the industry into a role of national importance.

The present series of motor carrier statistics does not include companies operating contract services or the hundreds of small businesses operating one or two trucks each. The records of the latter group are often inadequate and their life is frequently so brief as to make a census impossible. There is an indication, however, of gradual consolidation and growth of these smaller firms. Among the common carriers in 1955, 2,938 firms reported an average gross revenue of \$96,498 compared with \$88,972 in 1954; 56 of these motor carriers operated urban bus services. It has become evident that intercity travel by bus is showing the same declining trend as other forms of commercial transit. Scheduled and chartered buses carried 59,898,473 passengers in 1956,



One solution of the centre-town parking problem in Winnipeg.

a decline of 4,289,702 from 1955, but vehicle-miles run dropped only slightly from 91,578,976 to 91,366,752. To compensate for the decline in the number of passengers, average fares were raised to 68 cents per passenger, which resulted in a revenue of \$40,944,481, up about \$600,000 from 1955.

Shipping

Canada, as fourth trading nation of the world, has a vital interest in shipping. Not only does much of the nation's external trade travel by sea, but a large part of the domestic commerce moves along coastal waters, on the St. Lawrence River, through the Great Lakes or on the numerous smaller lakes and rivers farther inland. There are many settlements along both East and West Coasts that rely entirely on shipping for their survival, and there are areas in the vast hinterland of the interior where water is still the only available means of transportation.

Except for the coastal trade, all the waterways of Canada—the rivers, lakes and canals—are open on equal terms to the shipping of all nations. However, most of the inland trade is carried in ships of Canadian registry.

In 1956, 123,955 vessels arrived at Canadian ports in conducting foreign or coastal trade as compared with 120,442 in 1955 and 118,969 in 1954. The total tonnage of all cargoes loaded and unloaded in foreign trade during 1956 at Canadian ports amounted to 89,927,444 tons. Of this, 29,341,032 tons or 32.6 p.c. were carried in vessels of Canadian registry.

Of the total waterborne foreign trade, 60.3 p.c. or 54,240,564 tons was with the United States and, of this traffic, Canadian vessels carried 52.5 p.c. In trade with other countries, however, Canadian vessels carried only 849,354 tons of a total of 35,686,880 tons. Most of the remainder was carried by vessels of the United States, the United Kingdom, Norway, Panama, Liberia, Germany, Sweden, Japan and the Netherlands.

Commodities exported by vessel in 1956 amounted to 49,373,132 tons, 25.0 p.c. above the 1955 total. The greatest increase was recorded at Atlantic and St. Lawrence River ports (Montreal and below), where the total rose 29.2 p.c. from 24,719,979 tons in 1955 to 31,932,402 tons in 1956. Iron ore and wheat accounted for most of this increase. The tonnage of exports from Great Lakes and St. Lawrence River ports above Montreal increased 21.0 p.c. to 7,695,678 tons while the total of 9,745,052 tons from Pacific Coast ports was 15.7 p.c. above the 1955 tonnage. Major tonnages of Canadian exports by ship in 1956 included: iron ore, 18,831,791; wheat, 8,451,467; gypsum, 3,788,983; and newsprint, 2,144,508.

Imports conveyed by ship increased from 35,880,782 in 1955 to 40,554,312 tons in 1956, or by 13.0 p.c. Shipments of bituminous coal at 15,784,319 tons, crude petroleum at 3,379,404 tons and iron ore at 5,090,502 tons were all considerably higher than in 1955. Increases were also registered for iron and steel, cement, sulphur, limestone and sand and gravel. Decreases were recorded in bauxite, anthracite coal, gasoline, petroleum products and fertilizers.

Canadian aids to navigation include adequate marking of dangerous areas by lighthouses and other marine signals, an efficient pilotage service, and radio-signal and direction-finding stations. Comprehensive federal legislation and regulations ensure a high standard of safety for navigation in Canadian waters.



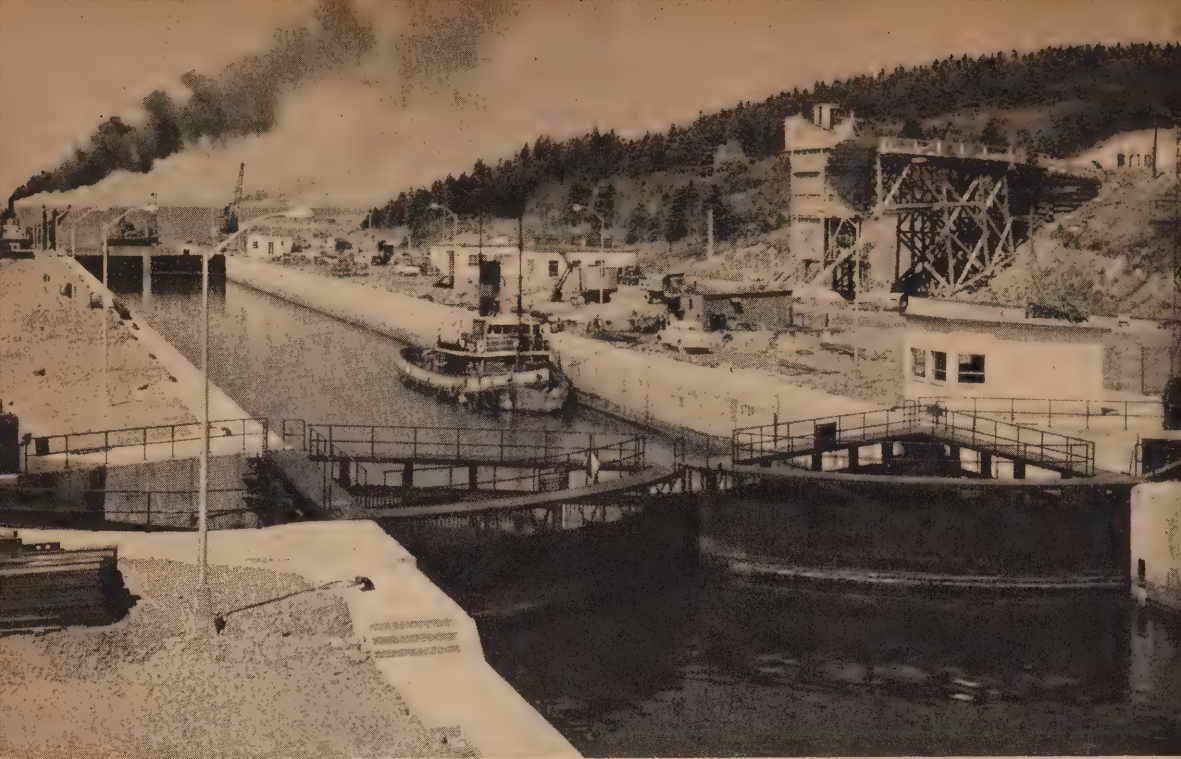
The harbour at Montreal, quiet and peaceful in the early morning hours, belies its constant great activity. To this port ships, large and small, bring goods from all parts of Canada and from the four corners of the earth, and from it flows outward a good part of the exports of the country.

A tug manoeuvres a passenger liner to her berth.



Canals

The major canals in Canada are those of the St. Lawrence-Great Lakes waterway. The unnavigable stretches of this waterway are by-passed by a series of canals—the Lachine, Soulanges, Cornwall, Farran's Point, Rapide Plat and Galop between Montreal and Lake Ontario, the Welland Ship between Lake Ontario and Lake Erie, and the Sault Ste. Marie between Lake Huron and Lake Superior. The 31 locks on these canals overcome a drop of 580 feet from the Head of the Lakes to Montreal. This waterway, adequate in its time but now largely outmoded, has played a tremendous part in the industrial development of Canada and, by providing cheap transportation for bulk commodities across half the Continent, has enabled Canadian goods to compete successfully in world markets. The canals of the St. Lawrence River section are not capable of handling larger sea-going vessels and it is to eliminate this bottleneck and extend deepsea facilities into the Great Lakes that the St. Lawrence Seaway project has been undertaken.



The new Canso Canal between the mainland of Nova Scotia and Cape Breton Island permits vessels northward bound to the Gulf of St. Lawrence or southward bound to the East Coast of Nova Scotia to use Canso Strait and save half a day's sailing time.

In 1954, following long negotiations between Canada and the United States, construction was started on the Seaway. Three canals with seven locks will provide navigation for vessels of 25-foot draught from Montreal to the Lakes; five of the locks are being built by Canada and two by the United States. The project, which is being constructed along with a hydro power development of 2,200,000 h.p. to be shared equally by Canada and the United States, includes also the dredging of long stretches of channel to bring it to the required depth, the construction of protecting dykes, the raising of bridges to allow greater clearance and the building of a new bridge. Work is also being done on the Welland Ship Canal to provide a depth of 27 feet as elsewhere on the Seaway. By the end of 1957 this joint Canada-United States project was about 75 p.c. complete. The Seaway will be ready for deep-draught shipping with the opening of the navigation season in 1959. The estimated total cost of \$1,025,000,000 will be liquidated by a composite toll system based partly on net tonnage of the ship and partly on the actual cargo tonnage.

Subsidiary Canadian canals or branches include the St. Peters Canal between Bras d'Or Lakes and the Atlantic Ocean in Nova Scotia; the St. Ours and Chambly Canals on the Richelieu River, Quebec; the Ste. Anne, Carillon and Grenville Canals on the Ottawa River; the Rideau Canal between the Ottawa River and Lake Ontario; and the Trent and Murray Canals between Lake Ontario and Georgian Bay in Ontario. The Canso Canal was completed in 1957, permitting shipping to pass through the causeway connecting Cape Breton Island with the Nova Scotia mainland. During 1956,

40,016,565 tons of freight passed through the canals in 32,865 vessels. In addition, thousands of pleasure craft locked through; one point, Sault Ste. Marie, was passed by 121,151 passengers.

Harbours

A considerable part of the goods carried in Canada, both in domestic and international trade, use water facilities for some portion of their journey. The interchange of movement from land to water routes and *vice versa* is handled at many ports on the sea coasts and along the St. Lawrence-Great Lakes waterway. The major ports are, of course, the deepsea harbours which are well equipped with the necessary docks and wharves, warehouses, equipment for the handling of bulk freight, harbour railways, grain elevators, coal bunkers, oil storage tanks and dry docks.

Eight of the principal harbours are administered by the National Harbours Board, a Crown corporation responsible to Parliament for their efficient operation. The improvement and strengthening of harbour engineering services and the uniform application of regulations and tariffs is part of the national policy. Seven other harbours are administered by commissions that include municipal as well as federal appointees and, in addition, there are about 300 public harbours, all of which are under the supervision of the Department of Transport.

The harbours administered by the National Harbours Board are: Halifax and Saint John on the Atlantic seaboard; Chicoutimi on the Saguenay River, and Quebec, Three Rivers and Montreal on the St. Lawrence River in Quebec; Churchill on Hudson Bay; and Vancouver on the Pacific Coast. Most of these ports also have dock and handling facilities owned by private companies. In the years 1956 to 1958 as much money was allotted to harbour improvements as was spent in the previous twenty years.

The freight movement through a large port includes that loaded and unloaded from sea-going vessels, the cargo handled by coastal vessels which is as large or larger, in-transit movement, and the movement from one point to another within the harbour. Figures for the ports reporting the highest tonnages in foreign and coastwise trade in 1956 are given in the following table.

Unloading grain at Quebec harbour. The main commodities handled at this seaport include fuel oil and gasoline, grain, pulpwood and newsprint, coal, cement and ores and concentrates.



Foreign and Coastwise Trade through Ports Handling over 2,500,000 Tons in 1956

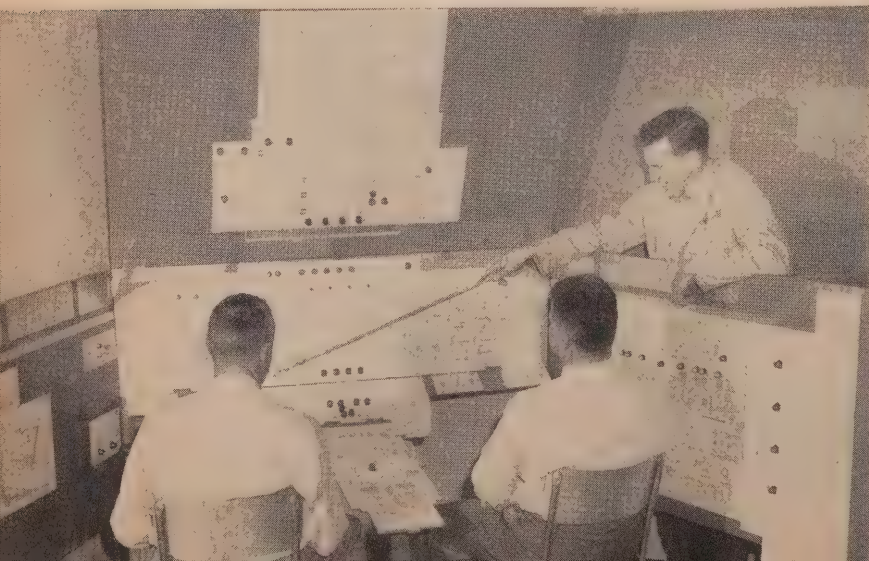
Port	Foreign		Coastwise		Total Freight Handled
	Loaded	Unloaded	Loaded	Unloaded	
	tons	tons	tons	tons	tons
Montreal, Que.....	7,292,333	5,468,786	4,514,678	7,067,735	24,343,532
Vancouver, B.C.....	6,071,021	1,463,914	2,740,993	2,275,968	12,551,896
Sept-Îles, Que.....	9,156,283	70,212	3,034,810	124,876	12,386,181
Port Arthur, Ont.....	4,328,816	311,539	6,847,225	272,358	11,759,938
Hamilton, Ont.....	19,613	6,357,954	339,789	820,870	7,538,226
Halifax, N.S.....	2,221,179	2,635,692	1,428,446	202,548	6,487,865
Sault Ste. Marie, Ont.....	252,709	4,704,312	198,324	285,310	5,440,655
Toronto, Ont.....	90,741	2,671,568	893,581	1,631,737	5,287,627
Port Colborne, Ont.....	50,466	708,231	1,729,709	2,208,302	4,696,708
Port William, Ont.....	637,216	967,031	2,452,653	329,640	4,386,540
Quebec, Que.....	986,644	699,186	222,927	2,373,626	4,282,383
Sarnia, Ont.....	140,242	858,089	1,833,310	735,887	3,567,528
Port Alfred, Que.....	392,081	2,589,476	56,519	496,030	3,534,106
Sydney, N.S.....	330,895	174,899	1,456,613	1,239,490	3,201,897
Bell Island, Nfld.....	2,410,784	—	539,663	28,181	2,978,628
Three Rivers, Que.....	729,153	267,771	12,530	1,906,520	2,915,974
Saint John, N.B.....	1,557,951	815,862	123,577	400,494	2,897,884
Prescott, Ont.....	—	507,380	1,053,343	1,277,414	2,838,137

Certain of these ports, such as Port Alfred, serve large industrial establishments rather than great aggregations of population and their cargoes are therefore limited mainly to the movement of such heavy bulk raw materials as iron ore, pulpwood or, as for Port Alfred, bauxite.

Civil Aviation

The nucleus of Canada's freight and passenger air service is provided by the Trans-Canada Air Lines and the Canadian Pacific Air Lines. These two airlines carry a great portion of the air traffic originating in Canada, whether destined for other Canadian points or for Europe, the United States, Mexico, South America, the Antipodes or the Orient.

TCA, a publicly owned company, was created by Act of Parliament in 1937 to operate an all-Canadian transcontinental and international air service. From a modest beginning, operations have been expanded until in 1957, its twentieth year, TCA carried an estimated 2,375,000 passengers, flying 1,150,000,000 revenue passenger-miles on Canadian and United States routes and 230,000,000 revenue passenger-miles to the United Kingdom, Europe,



CPA pilots were given a six-week training course on the operation of the Bristol Britannia prior to the delivery of the first aircraft. One of the visual aids used for instruction was a full-scale mock-up of the cabin.

TCA in 1957, its twentieth year of operation, carried an estimated 2,375,000 passengers.



The delivery of this Super Constellation late in 1957 brought the number of these 70-passenger aircraft in TCA's fleet to eleven.



Business flying in Canada is on the threshold of expansion with the development of industry and its decentralization. A substantial part of the traffic at certain of the major airports is accounted for by non-commercial aircraft.

CPA's first Bristol Britannia, one of six to be delivered by early 1958, completed the first non-stop flight from Vancouver to London, England, over the polar route in just under 14 hours. It is shown in the new \$1,400,000 hangar at Vancouver. The aircraft carries 100 passengers at a cruising speed of 400 mph.





Canada's most northerly civilian airport is at Frobisher Bay on Baffin Island, 1,200 miles due north of Montreal. This new refueling point promises to become vital to international air transport. By using Frobisher as a stepping-stone, air-cruisers flying the new polar route from western North American points to Europe can save seven hours flying time.

Bermuda and Caribbean areas. During the summer of 1957, TCA operated seven daily transcontinental flights and two additional flights between Eastern Canada and Alberta. On the North Atlantic, as many as twelve weekly overseas operations were scheduled. Non-stop flights from Toronto to Vancouver and from Toronto across the Atlantic were inaugurated in 1957 using Super Constellation equipment. The present fleet plan provides for an all-turbine, four-engined fleet by the end of 1961. Twenty Vickers Vanguards to cost \$67,100,000 were ordered in 1957 and an option was taken on two other DC-8's in addition to the four ordered in 1956. Fourteen Viscount prop-jets were placed in service during the year to make a total operating fleet of 31 of these aircraft. The fleet also included 11 long-range Super Constellations, 21 North Stars and 18 DC-3's. Fares were reduced during the year, particularly tourist fares; family rates were continued and a "pay later" plan was in effect. TCA staff numbered 9,800 at the end of 1957.

In 1942 a number of independent companies engaged in flying in Canada's northland were taken over by the Canadian Pacific Railway and consolidated into one company—Canadian Pacific Air Lines Limited. In 1949 this company was designated to provide transpacific services on behalf of Canada and later added other overseas routes until today it is one of the largest world carriers in terms of unduplicated route-miles. Its south Pacific service links Canada with Australia, New Zealand, Honolulu and Fiji, and a northern route extends

to Japan and Hong Kong by way of the Aleutian Islands. Four flights a week cross the Arctic from Vancouver to Amsterdam. In 1957 a service linking Canada to Portugal and Spain was inaugurated and Chile became the fourth country in CPA's South American network now serving Mexico City, Lima, Santiago and Buenos Aires. Highlight of equipment expansion during the year was a \$20,000,000 order for six giant 100-passenger Bristol Britannia turbo-prop airliners with an additional five under option. CPA in 1958 will become one of the first major airlines to operate the world's largest and fastest in-service commercial airliners on its entire global route pattern. In Canada, CPA flies north-south routes, mostly in the West, but is seeking authority to operate a competitive domestic transcontinental service linking nine cities from Vancouver to Montreal.

Though Canada's aviation spotlight tends to be directed on TCA and CPA, extensive scheduled service is provided by a number of smaller carriers—in the lower St. Lawrence area by Quebecair; in the Atlantic and Pacific Coast areas by Maritime Central Airways and Pacific Western Airlines, respectively; in northern Manitoba and western Ontario by Trans-Air of Winnipeg. At the end of 1956, licensed air carriers operating in Canada held certificates covering 42 scheduled, 98 flying-training and 658 non-scheduled and specialty commercial air services. Non-scheduled services are operated by most of the independent lines. They provide effective access to sections of Canada that are inaccessible by other means of transportation and act as feeders to the scheduled airlines. Their specialty services include recreational flying, aerial photography and surveying, aerial pest control and aerial advertising.

The Federal Department of Transport, which is responsible through its Air Services for the control of civil aviation, operates 111 airports and provides traffic control over 20,000 miles of airways. A chain of airports, equipped with modern air navigation facilities, extends from coast to coast, linking at Edmonton with the Yukon and Northwest Territories. As air travel has increased and larger, faster aircraft have come into use, airport and navigational facilities have been under strain to keep pace. Until recently emphasis has been rather on the extension of facilities required for aircraft and for the safety of flying than on the provision of more convenient terminal facilities. However, a large program of terminal improvement is now well under way.

In this day of world-wide air travel, international co-operation in the field of civil aviation is imperative. Canada has a special interest in the International Civil Aviation Organization of the United Nations, which has its headquarters in Montreal, and is a signatory to agreements with Australia, Belgium, Denmark, France, Ireland, Mexico, the Netherlands, New Zealand, Norway, Peru, Portugal, Sweden, the United Kingdom and the United States, with traffic and landing rights at many European, Caribbean, United States and Pacific points. Operating certificates have been issued to 16 Commonwealth and foreign scheduled services flying into Canada.

Pipelines

Pipeline construction in Canada dates from the years of major trans-continental railway building of the nineteenth century. However, these early pipelines had limited use and it was not until the important Western Canada oil and gas discoveries were made in the 1940's that their status changed.

Since then a transcontinental system of oil lines has been completed and in 1957 a cross-country system of gas lines was well under construction.

Gas Pipelines.—Nineteen fifty-seven was Canada's greatest gas pipeline construction year. Over 2,000 miles of gathering and main transmission lines were placed in the ground and hundreds of miles of distribution lines were laid in cities and towns. By the end of 1958 most urban centres from Vancouver to Montreal will have natural gas delivered from Alberta and northeastern British Columbia fields. The two main transmission components of this cross-country system are the pipelines of Trans-Canada Pipe Lines Limited and Westcoast Transmission Company Limited. Each of these main lines is supplied from large field-gathering systems and each in turn makes deliveries to distribution utilities along its route.

Westcoast Transmission Company Limited started construction of its 650-mile, 30-inch main line, from the Peace River region to the Vancouver area late in 1955 and completed it in 1957. In October the line commenced deliveries to Vancouver and to the Pacific Northwest Pipe Line Corporation's system at Huntingdon on the Canada-United States boundary. Deliveries will also be made to many communities in southern British Columbia via the system of Inland Natural Gas Company. The Westcoast system, including gathering lines and a field gas-processing plant, was built at a cost of \$170,000,000 and has an initial daily capacity of 400,000,000 cu. feet. Through its United States border connection, it has become part of an integrated pipeline network which draws gas from the Peace River region and the New Mexico gas fields and serves markets throughout the Pacific Coast region of the United States and Canada.

At the end of 1957, the Trans-Canada pipeline was 60 p.c. complete. It stretched 1,283 miles from the Alberta border to Fort William and from Toronto to Montreal, and gas was being delivered to Winnipeg. The section across northern Ontario will be finished in late 1958. At that time the transmission system, costing \$378,000,000, will have a daily delivery capacity of 300,000,000 cu. feet and a designed maximum capacity of 780,000,000 cu. feet. Gas will flow from fields in Alberta through a provincial grid gathering system to the Trans-Canada western terminal on the Alberta-Saskatchewan border. It will then move through 586 miles of 34-inch pipe across the prairies to Winnipeg, 1,251 miles of 30-inch pipe across northern Ontario to Toronto, and 308 miles of 20-inch pipe through southeastern Ontario to Montreal. Lateral lines will make provision for distribution to cities, towns and industrial centres along the route.

Utility sales of natural gas in Canada during 1956 totalled 143,725,649,000 cu. feet and in 1957 were estimated to be about 170,000,000,000 cu. feet. Full-scale operation of the two new transmission systems will provide for greatly increased use of natural gas in Canada in the near future.

Oil Pipelines.—The principal components of Canada's oil pipeline system were completed in 1953 but each year it has been further expanded. In 1957 the most significant addition was a 156-mile extension of 20-inch pipe from Sarnia to the Toronto area which was made by Interprovincial Pipe Line Company. This pipeline extending for 1,931 miles is the world's longest crude oil pipeline. A pipeline looping program was also carried out during the year to give Interprovincial a capacity at the Edmonton end of 235,000 bbl. per day. Crude oil is received from the major fields in Alberta and others

Spreading gas arteries are bringing a new source of energy across Canada and a rapid market build-up is indicated both on the West Coast and in Ontario and Quebec.



in Saskatchewan and Manitoba. As it travels eastward, deliveries are made to refineries in Canada and the United States. Consequently, transportation requirements differ along the route and capacity in the central section is actually greater than at the western terminal.

The Trans Mountain Oil Pipe Line Company transports oil from Edmonton to Vancouver and southward to the Puget Sound area of the State of Washington. During 1957 the capacity was increased from 185,000 to 240,000 bbl. a day. Trans Mountain receives crude oil from feeder lines in central Alberta and from the Peace River region through a feeder line at Edson, Alberta. Capacity is sufficient to make deliveries to existing British Columbia and Washington refineries and to others now under construction.

Altogether approximately 700 miles of oil pipeline were constructed in 1957 and at the end of the year close to 6,800 miles were in operation in Canada; 1,544 miles of oil pipeline are used exclusively in the United States for the transportation of Canadian-produced crude oil. Net deliveries of crude oil amounted to 274,940,340 bbl. in 1956 and 290,857,612 bbl. in 1957.





The western section of a row of steel towers marching about thirty miles apart across the Continent, through cities and over mountains and plains, is being completed. When the last tower is erected in mid-1958, Canada's new microwave radio relay system will be in full operation across 3,900 miles of territory, improving the nation's long-distance telephone facilities, providing teletype, telephoto, telegraph and telemetering circuits and transforming the television network of the country.

Communications

THE vast expanse of Canada is overlaid and bound together with networks of the most modern communication media. Telegraph wires first advanced into the wilderness with the early railroads and are still a vital means of conveying messages. Telephone service, which spread rapidly from small urban exchanges into a web of transcontinental wires, are kept in the forefront of development and every technological advance quickly utilized. The written word has long been fostered through a strong and free press which today compares favourably with any other in the world. Through submarine cables and the newer wonders of radio transmission, Canadians are brought into close relationship with the world community. The story of Canada's communications, which includes an efficient postal service, is one of continuous progress and development.

Telephones.—There were 4,499,325 telephones in Canada at the end of 1956—one for every 3.6 persons, a ratio exceeded only in the United States and Sweden. Service was provided by 2,661 telephone systems ranging in size from small co-operative systems in rural districts to such large shareholder-owned companies as the Bell Telephone Company of Canada which operates in Ontario and Quebec and serves 61 p.c. of all telephones in the nation. The British Columbia Telephone Company, also shareholder-owned, serves 9 p.c. of the total. Four private companies cover the Atlantic Provinces and three provincially owned systems serve the Prairie Provinces. The use of telephone service in Canada runs at a high level. The estimated number of calls on all systems in 1956 was 7,764,806,000, representing an average of 1,726 calls per telephone and 483 calls per person. Of the total, 171,000,000 were long-distance calls, most of them to points within Canada or between Canada and the United States. Long-distance services make possible the interconnection of practically any telephone across the country with any other; also with any of the 60,000,000 telephones in the United States or with

Through this superhighway of the sky and its spur lines, more than 85 p.c. of the population will enjoy television service.



Speed of communication is essential in the business world. Private-line teletype service is used by hundreds of Canadian companies to link offices or plants, whether close together or widely separated.

An international printed-word service links Canadian and overseas subscribers through the transatlantic telephone cable. The Telex switchboard at Montreal can bring in 26 countries—most of them within a minute.



Radio-telephone has become commonplace for local operations of all kinds and much valuable time is saved by being able to give instructions to moving operators such as construction and warehouse crews and taxi drivers. Newspaper reporters on location may speak directly with the news desk and policemen on patrol are in direct communication with their station.



The safe operation of an airport would be impossible without control equipment and personnel to guide the traffic, both in the air and on the ground.

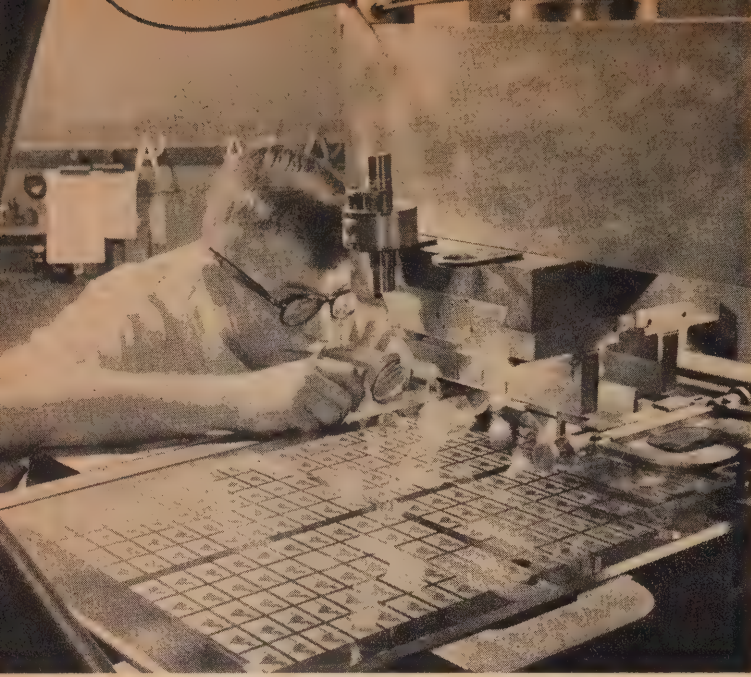
the telephones in 126 other countries and territories. Within Canada, long-distance service is provided by the separate systems and, on a nation-wide scale, by the Trans-Canada Telephone System, an organization of the seven major telephone companies and two associated systems.

The recent tremendous growth of Canadian telephone systems has been matched by their technological development. About 77 p.c. of all telephones in Canada are now equipped for automatic completion of local calls. Cross-bar, a type of electro-mechanical switching equipment adaptable to heavy calling loads, has been introduced in several Ontario and Quebec communities and is employed for automatic handling of long-distance calls in Toronto and Montreal. This equipment, which enables operators to dial calls directly to telephones in distant cities across the Continent, will soon be installed in most major centres in Canada and the United States. Customer dialing of long-distance calls is already in effect between a number of southwestern Ontario points and nearby Michigan communities and will be introduced at Guelph and Toronto in 1958.

Advances have been made in the provision of long-distance telephone and television channels on a trans-Canada basis. The first sections of the trans-Canada inter-system microwave radio relay chain now under construction were in service in 1956 and by mid-1958 the final link will be completed. With branches to centres of population off the main route, the system will serve most of Canada's population.

This service is only one of the several major communication services now provided by member companies of the Trans-Canada Telephone System. Notable among these is the modern private-line teletype service used by hundreds of companies to link offices and plants on a local or nation-wide basis or across the International Boundary. Such systems can be adapted to transmit data in a variety of forms—printed word, photographs and facsimile, coded data, etc. Some telephone companies are also providing new and faster methods of communication for civic needs. For instance, a new type of emergency reporting system utilizes telephone call boxes located at strategic points throughout a municipality which are directly connected with switchboards at fire and police headquarters.

Overseas Communications.—All external telecommunication services—cable, radiotelegraph and radiotelephone—are maintained and operated by the Canadian Overseas Telecommunication Corporation, a Crown agency established in 1950. Since that time, Canada has participated with the United Kingdom and the United States in the laying of a transatlantic telephone cable which was placed in service in 1956; transpacific radiotelephone and radiotelegraph services were inaugurated with Australia and New Zealand, also in 1956; overseas radiotelegraph facilities at Yamachiche and Drummondville, Que., were augmented to take care of expanding services; an overseas teleprinter switching system was installed by means of which the user may teletype directly from his own office to that of his correspondent. To carry this service, the cable circuits available to Canada have had to be doubled and a new cable is planned for completion in 1961.



A postage stamp is no longer merely a means of paying for the passage of matter through the mails. It has become an object of interest for many people and therefore much care is taken with its design. In addition to the regular issues, special stamps are prepared for noteworthy events in the life of the country. In 1957 ten new designs were put in circulation.

Postal Service

The volume of mail despatched in Canada for delivery in and outside the country and the vast distances to be served require a highly organized and efficient postal service, and one that can keep pace with the growing social and business needs of the country.

Every type of transport equipment in the land, from aircraft to dog team, is utilized in the delivery of mail, as well as the services of about 23,000 persons. The heaviest mail load is carried by railway post offices, manned by railway mail clerks, on principal trains in all parts of Canada. These services operate in conjunction with motor vehicle and baggage car services. However, changing equipment and frequency of service on railways is necessitating some changeover to motor vehicle services. All first-class domestic mail up to and including eight ounces is transported by air whenever this expedites delivery. A network of air routes links every section of Canada and connects with air services to other countries. Isolated areas are also served by air, Arctic outposts receiving mail through courtesy flights by the Royal Canadian Air Force and commercial airlines, although some is transported by ship in summer. Coastal settlements are also served by ship.

Wherever population warrants, post offices are established for the transaction of every type of postal business. House-to-house delivery is conducted in cities and towns and daily service is given over most rural routes. In new suburban areas delivery is often made to group mail boxes where it is picked up by the addressee. A new mobile mail delivery service now delivers mail to business houses, industries and some residences located on the outskirts of the larger cities where delivery by letter carrier is not practicable. A multitude of side-services are in operation conveying mails to and from sub-post offices, postal stations and railway stations, wharves and airports, collecting from street letter-boxes, and delivering parcel post and registered mail.

The Post Office Department is continually improving its mail-handling machinery. In the larger offices mail is handled automatically from arrival to departure. Belt conveyors carry it from one working division to another. Though facing-up and sorting is still done by hand, mechanical equipment such as cancelling machines, revolving tables, bundle-tying machines and spiral chutes speed up the work.

On Mar. 31, 1957, there were 11,879 post offices in Canada. For the year ended on that date, gross postal revenue was \$167,880,000 of which \$77,700,000 was derived from the sale of postage stamps. The surplus over operating expenditures was \$5,831,000. Combined deposits of \$36,164,460 were reported in Post Office Savings Banks which are located throughout Canada.

The Press

By reason of Canada's vast area and its relatively low density of population, daily and weekly newspapers circulate largely on a regional basis, although in a land well served by speedy air and rail transportation a number of metropolitan newspapers in such centres as Toronto, Montreal, Quebec, Winnipeg and Vancouver enjoy almost nation-wide influence. Every publishing day, 105 Canadian daily newspapers, counting morning and evening editions separately, appear on the streets, of which 86 are in English, 12 in French and the remainder in other languages. Total circulation approaches 4,000,000. A fair number of these papers have been established for over a century; ten of them have circulations in excess of 100,000 and account for more than half of all papers sold. Most of this newspaper circulation is in urban centres, the rural areas being more adequately served by weekly or monthly publications that cater to their particular interests. Included in the latter group in 1956 were many of the 88 foreign-language papers published in Canada to serve the recent immigrants from Central and Eastern Europe.

Magazines and periodicals also enjoy a large circulation. In 1956, 706 periodicals, ranging widely in topic from arts, sports and religion to construction, had a circulation in excess of 12,800,000.



A great many new post office buildings have been constructed in cities, towns and villages within the past few years—modern, functional structures suited to their surroundings.

Behind the newspapers lie two great news-gathering organizations, the Canadian Press and the British United Press. The CP, a co-operative venture formed 40 years ago, is owned and operated by the Canadian newspapers. It collects and delivers news and photographs of interest to newspapers and radio stations throughout the nation, and transmits items of world-wide interest through reciprocal arrangements with Reuters, the British agency, and the Associated Press, the United States co-operative. It is, in practice, a venture for exchanging news among members, and the costs are shared by almost all dailies in relation to the populations of the cities served.

The other service, British United Press, is a limited company in Canada and maintains a close association with the United Press (New York). From its headquarters in Montreal and its 12 Canadian bureaux, it serves about 50 newspapers and 90 radio subscribers in Canada. Of the world news agencies, Agence France Presse maintains an office in Montreal and International News Service has a number of regular correspondents scattered throughout Canada and reporting to INS bureaux in the United States. Also, some foreign newspapers have agencies in Ottawa to interpret Canadian news for their readers.

Daily newspapers alone contribute about 60 p.c. of the revenue received from Canadian periodical publications, totalling about \$287,000,000 yearly, of which amount \$212,000,000 is realized from advertising and \$75,000,000 from sales. Printed and bound books were produced to the value of \$36,000,000 although less than half of that was classed as reading matter—the remainder being catalogues and other advertising material. Recorded imports of books and other printed matter greatly exceeded exports, the former amounting to \$83,912,000 in 1957, and the latter \$4,983,000.

Newsprint used by the publishing and printing industries was valued at \$58,500,000 in 1955, and book paper, used mostly in magazines, at \$22,000,000. The trade employed nearly 30,000 people whose salaries and wages amounted to \$108,000,000.



A battery of linotypes — the machines that revolutionized the printing industry nearly seventy years ago. These machines have been refined to the point where they are almost human in their operation. Each costs about \$35,000 and devours 2,800 lb. of metal alloy a day.

The press of Canada has had a 200-year history and many of the great newspapers of today began their service to the public long before the Canadian nation was unified. These newspapers, with their legacy of freedom, have fought through the issues of the days of nation-building and have maintained the right of the people to be informed during the eras of social and industrial change. Though other communication methods have been born and found their place, the newspapers still remain the greatest disseminators of information. Increasing circulation, wider readership, extended areas of news coverage, speedier news-gathering services and qualitative refinements and improvements are evidences of their constant progress.



The Gazette, Montreal's first newspaper, has continued to serve the city and its surrounding areas since it first appeared in 1778, its sphere of service growing with the growth of that great metropolis and the nation.



The Gazette staff now numbers more than 800 and its daily circulation has passed the 100,000-mark.



The trend of retail trade is one of the best general indicators of the economic condition of the country since it is through retail stores that most goods are ultimately sold and such sales reflect the financial strength of the consumer. The value of goods purchased at the retail level in 1957 was nearly \$15,000,000,000, as compared with \$10,000,000,000 in 1950.

Domestic Trade

DOMESTIC trade, which at first glance might be considered to cover only the movement of goods from one point to another within the country, is in reality a broad and complex subject. It includes all the values added to commodities as they move from the manufacturer, the producer or the importer to the ultimate domestic consumer—services of transportation companies, warehouses, wholesale and retail stores, financial houses, and so on. It also takes into account many kinds of professional and personal services—theatres, dry cleaning plants, barber shops, advertising agencies, automobile and radio repair shops, hotels, cold storage lockers, taxis—in fact, all businesses that sell service rather than goods. It is not possible to cover the whole subject of distribution in detail here, but brief information on the more important phases is given, and included is a review of consumer credit which is an integral part of the distribution of goods and services and is of particular interest at the present time as an indication of the buying habits of the people.

Distribution Trends.—From the customer's side of the picture, there has been a tremendous change in the retail marketing of goods during the past ten years, not only in variety and volume of commodities, but also in the manner in which they are presented to the public and in the type of store from which they are purchased. It is perhaps in the food business that the greatest changes have taken place. Most foods are now presented to the consumer in more highly prepared form, many of them pre-cooked and frozen for almost immediate use. Everything is packaged in attractive salable lots for ease of shopping. The number of independent grocery stores in which the customer is served and credit offered is diminishing—the large chain stores carrying a great variety of products and conducted on a cash basis continue to take over an increasing share of the food business.

Chain stores generally are doing an increasing portion of the retail business of the country. Besides being prominent in the food field, most of the variety stores are chain-operated. The growth is attributed largely to the shopping-centre development in suburban areas of the larger cities, in which the stores are usually either branches of larger local stores or of regional or country-wide chains. The development of a shopping centre is often financed by a chain-store establishment and built around a large outlet for that organization.

Department store sales continue to hold their own in the face of competition from the shopping centre. Their appeal to the customer is quite different. They are usually located within a business district and, unlike the suburban shopping centre that has comparatively little trade until the weekend, they draw their trade throughout the week from business people. There is often a strong appeal to shopping under one roof for different lines of goods which can be charged to a single credit account.

It is becoming increasingly difficult to classify sales by type of store since most of them, though specializing in one line of trade, have diversified their merchandise to such an extent that they might well be called variety

stores. Food stores now carry such non-edibles as toys, hardware, drugs, notions, clothing and magazines. Drug stores supply everything from prescriptions to phonograph records.

Heavy competition in many lines has brought about the introduction of "gimmicks" to attract customers. It has become common practice to expect large discounts or high trade-in allowances on new home appliances, motor vehicles and furniture, or a bonus such as a gift of food with the purchase of a deep-freeze unit. Trading stamps which may be exchanged for premiums have also been forced on the customer in many sections of the country. Similarly, credit has been more freely granted by merchants under a variety of plans, all of which are intended to induce or perpetuate customer spending.

Retail Statistics.—The extent of retail trade is measured statistically on a monthly basis, and from that information annual estimates are compiled. Total retail sales in 1957 at \$14,793,000,000 were 3.5 p.c. higher than in 1956, continuing the generally upward trend of the postwar years. Grocery and combination stores, which account for nearly 20 p.c. of the retail sales of the country, recorded the greatest increase, while motor vehicle dealers, lumber and building material dealers, and furniture, radio and appliance stores had lower sales than in 1956. Trade in Alberta was particularly successful during 1957, although all provinces except the Atlantic group reported increased activity.

Retail Store Sales, by Type of Business and by Province, 1955-57

Type of Business and Province	Sales			Percentage Change 1956-57
	1955	1956	1957	
	\$'000,000	\$'000,000	\$'000,000	
Type of Business				
Grocery and combination stores.....	2,429.6	2,639.0	2,889.2	+ 9.5
Other food and beverage stores.....	949.6	1,044.1	1,119.2	+ 7.2
General stores.....	529.8	568.4	586.0	+ 3.1
Department stores.....	1,150.5	1,242.2	1,298.1	+ 4.5
Variety stores.....	250.2	274.5	296.1	+ 7.9
Motor vehicle dealers.....	2,370.1	2,541.7	2,505.0	- 1.4
Garages and filling stations.....	717.9	821.6	876.2	+ 6.6
Men's clothing stores.....	214.3	230.1	233.4	+ 1.4
Family clothing stores.....	199.9	214.8	216.4	+ 0.8
Women's clothing stores.....	225.2	247.3	256.5	+ 3.7
Shoe stores.....	123.2	129.1	137.3	+ 6.4
Hardware stores.....	256.0	290.7	296.5	+ 2.0
Lumber and building material dealers.....	450.7	483.5	453.7	- 6.2
Furniture, radio and appliance stores.....	540.5	584.3	577.5	- 1.2
Restaurants.....	467.6	508.2	524.2	+ 3.1
Fuel dealers.....	267.9	312.1	325.3	+ 4.3
Drug stores.....	300.3	329.0	348.0	+ 5.8
All other stores.....	1,668.7	1,837.1	1,854.2	+ 0.9
Totals.....	13,111.9	14,297.6	14,793.0	+ 3.5
Province				
Atlantic Provinces.....	1,127.1	1,211.2	1,209.4	- 0.1
Quebec.....	3,005.7	3,322.2	3,452.4	+ 3.9
Ontario.....	5,115.2	5,498.6	5,643.7	+ 2.6
Manitoba.....	669.3	700.1	734.9	+ 5.0
Saskatchewan.....	748.0	812.3	860.1	+ 5.9
Alberta.....	1,035.0	1,159.0	1,231.7	+ 6.3
British Columbia (incl. Yukon and N.W.T.)..	1,411.6	1,594.3	1,660.9	+ 4.2

Summary statistics for chain stores are shown in the following table; figures for 1956 are the latest available. These stores include all those operating four or more retail outlets. The 8,559 stores, operated by 499 organizations, transacted 18.5 p.c. of the retail business in Canada.

Chain Store Statistics, 1930-56

Year	Stores	Retail Sales	Salaries to Store Employees	Stocks on Hand End of Year		Accounts Outstanding End of Year
				Store	Warehouse	
	Av. No.	\$'000	\$'000	\$'000	\$'000	\$'000
1930.....	8,097	487,336	50,405	60,457	—	—
1941.....	7,622	639,210	57,777	68,619	20,976	38,376
1951.....	7,846	1,775,744	153,599	186,562	60,490	53,816
1953.....	7,835	2,048,228	171,167	179,704	52,096	91,538
1954.....	8,136	2,146,635	181,509	191,049	57,814	102,747
1955.....	8,274	2,353,955	199,611	205,833	63,120	127,362
1956.....	8,559	2,647,055	221,136	232,392	72,183	143,357

Retail sales by motor vehicle dealers, which include the value of new and used cars sold, amounted to \$2,505,000,000 in 1957 and stood second only to sales by food stores. The number of new vehicles sold was slightly lower in 1957 than in 1956, being on about the same level as 1955 sales. The number of sales financed showed a greater decline than the number of cars sold, indicating that either more of the cars bought were paid for in cash, or a smaller portion of the cost price was financed.

The corner drug store is a perfect illustration of the difficulties encountered in attempting to classify retail sales by type of store. Drug store sales of \$348,000,000 in 1957 include articles that might be carried in almost any other type of retail outlet.



New Passenger Car Sales and Financing, 1950-57

Year	Sold		Financed		P.C. of Total Sales Financed	
	No.	Retail Value	No.	Retail Value	No.	Value
		\$'000		\$'000		
1950.....	324,903	661,674	97,051	131,003	29.9	19.8
1951.....	275,686	683,183	81,726	110,146	29.6	16.1
1952.....	292,095	725,168	124,879	194,422	42.8	26.8
1953.....	359,172	899,726	146,431	252,160	40.8	28.0
1954.....	310,546	797,554	126,099	230,900	40.6	29.0
1955.....	386,962	1,023,351	156,191	305,069	40.4	29.8
1956.....	407,710	1,127,523	190,109	408,993	46.6	36.3
1957 ^p	386,917	1,100,462	173,379	388,134	44.8	35.3

Consumer Credit.—The outstanding debt of Canadian consumers has grown at a remarkable rate since wartime restrictions on consumer credit were completely lifted in 1952. Up to that point in the postwar period, controls and the fact that demand exceeded supply kept credit buying at a fairly low level. But since 1952 the extension of consumer credit has enabled many families to purchase household durables on the instalment plan with a minimum down payment. In many respects, the intelligent use of credit is the quickest way of expanding personal assets. It is a form of enforced personal saving which probably would not otherwise be attempted, and at the same time it is one of the important stimulants to industry.

Irrespective of the good or bad points of credit, the fact remains that consumer debt rose from \$411,000,000 at the end of 1946 to \$2,477,000,000 at the end of 1956—and these figures do not include mortgage indebtedness or personal credit such as that given for professional services and loans between individuals. In comparison, retail sales, the source of most of this credit, increased only 147 p.c. during the period.

Consumer Credit Outstanding—Estimates of Selected Items, 1952-57

Date	Charge Accounts	Instalment Credit			Cash Personal Loans	Total Selected Items
		Retail Dealers	Finance and Loan Companies	Total		
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1952—Dec. 31.....	309	243	373	616	460	1,385
1953—“ “.....	339	284	520	804	567	1,710
1954—“ “.....	363	322	497	819	661	1,843
1955—“ “.....	374	377	605	982	830	2,186
1956—Mar. 31.....	332	360	604	964	852	2,148
June 30.....	339	367	713	1,080	896	2,315
Sept. 30.....	349	377	785	1,162	901	2,412
Dec. 31.....	389	409	769	1,178	910	2,477
1957—Mar. 31.....	315	417	751	1,168	886	2,369
June 30.....	327	424	810	1,234	911	2,472

Sales finance companies carry the greatest share of instalment credit. Their business is largely derived from the financing of motor vehicles, but an increasing number of retailers are selling their instalment contracts for household goods to finance companies for collection and many professions

Jewellery stores, which of course sell many other types of articles in addition to precious jewellery, reported sales of about \$128,000,000 in 1957, slightly lower than in 1956. These stores, selling luxury goods, would perhaps reflect a slow-up of business more rapidly than other stores.



▲ A worker polishes a piece of platinum in a Montreal custom jewellery plant.



where extensive credit exists are following the same plan. Personal cash loans from money lenders, banks and credit unions are also included.

The high rate of increase in consumer credit showed some slackening in 1957, more in line with the rate of increase experienced by other sectors of the economy. In the second quarter of 1957, outstanding debt was 6.8 p.c. above the same period of 1956, gross national product was 4.0 p.c. higher, labour income 8.5 p.c. higher and retail sales 1.8 p.c. higher. At mid-1957 the ratio of outstanding credit to personal disposable income was 11.8 p.c.

Wholesale Trade.—Only one section of wholesale trade is surveyed on a current basis; this covers wholesale merchants who take title to the goods they sell and generally perform the duties of warehousing and delivery. The estimated sales of \$7,720,400,000 in 1956 were obtained by using sampling techniques based on the 1951 Census.

Estimates of Wholesale Sales, by Trade, 1953-56

Kind of Business	1953	1954	1955	1956
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Fresh fruits and vegetables.....	202.0	211.2	217.5	233.5
Groceries and food specialties.....	945.0	1,036.2	1,139.7	1,246.1
Meat and dairy products.....	171.7	171.1	164.2	173.5
Clothing and furnishings.....	88.9	80.9	86.5	89.5
Footwear.....	28.4	26.8	29.1	30.7
Textile and clothing accessories.....	180.7	174.2	183.6	199.3
Drugs and drug sundries.....	147.7	153.1	165.9	178.4
Household electrical appliances.....	138.2	150.1	167.9	168.6
Farm machinery.....	71.2	52.1	60.6	72.7
Coal and coke.....	197.2	179.0	178.4	202.9
Hardware.....	268.8	260.8	283.5	313.4
Construction materials, etc.....	550.4	546.7	655.3	710.0
Industrial and transportation equipment and supplies.....	533.5	462.2	571.9	764.8
Commercial, institutional and service equipment and supplies.....	83.0	89.3	99.0	107.9
Automotive parts and accessories.....	269.3	262.0	352.3	386.4
Newsprint, paper and products.....	236.8	249.5	264.2	292.4
Tobacco, confectionery and soft drinks.....	504.6	498.5	509.8	562.4
All other.....	1,625.5	1,458.8	1,620.1	1,987.9
Totals, All Trades.....	6,242.9	6,062.5	6,749.5	7,720.4

Co-operative Associations

Marketing and purchasing co-operatives, owned and operated by farmers, make up most of the co-operative movement in Canada, and almost 60 p.c. of the membership occurs in the Prairie Provinces, with Saskatchewan taking the lead. This regional concentration is also apparent by noting that, while 30 p.c. of all farm products marketed in Canada are marketed through co-operatives, the proportion for grain, hay and seeds, which come mainly from the mid-West, is 60 p.c. During the past eight years the business of co-operatives has not fluctuated greatly, averaging around \$1,000,000,000 and the number of associations at something over 2,000. However, assets at \$463,695,625, number of shareholder members at 1,255,788 and members' equity at \$204,668,482 all reached new highs in 1956. Of the total sales in 1956, amounting to \$1,019,750,088, about two-thirds was derived from the sale of farm products and the next largest category was the sale of supplies and merchandise, mostly to farmers. However, two other groups are important: co-operatives selling fish and purchasing supplies for fishermen, with a membership of 10,000 and business amounting to \$17,000,000 in 1956; and co-operatives providing housing, medical insurance, transportation and other services, with revenues of \$13,000,000 in 1956.

Prices

Wholesale Prices.—The general wholesale price index declined moderately during 1957 after a continuously upward climb beginning in December 1954 and culminating in a postwar peak of 229.4 in January 1957. However, in the last month of the year the index showed some strength, rising to 225.9 from 224.0 in November.

Lower prices for vegetable products, animal products and non-ferrous metals were mainly responsible for the downward movement. Vegetable products began falling off gradually, punctuated by sharper losses in May and August. The December index, though, was 2.3 points above November.

The oil industry is many industries rolled into one. In exploration and primary production it is a mining industry. Its transportation involves the railways, shipping, trucking and its own particular facility—the pipeline. In refining it is a chemical industry and in marketing it utilizes perhaps the largest retail system of any in the land.

In ten years the rate of new capital investment in the industry has increased from about \$1,000,000 monthly to over \$1,500,000 a day.



Animal products showed little change until June, and then rose to 246.1 in August, the highest point since October 1953. From then until November, lower prices for livestock and meats caused a sharp decline in the index. Prices of copper, lead and zinc have been tumbling since their postwar peak reached in 1956, as indicated by a drop in the group index from 190.4 in December 1956 to 169.3 in December 1957.

Textile products moved slightly higher in the first half of 1957 but lower prices for raw wool at the end of the year brought the index back to about the same level as for December 1956. Wood products experienced the same adjustment. Higher steel prices at mid-year resulted in the index for the iron group reaching a peak of 256.4 in August, but a gradual decline placed the December index only 1 p.c. above that for December 1956. Non-metallic minerals registered slight advances at the beginning of the year but thereafter remained fairly steady, and chemical product changes, while higher on balance, were insufficient to have any effect on the total index.

Advances and declines in building material prices in 1957 cancelled each other out so that the index remained fairly steady throughout the year. The residential building material index showed a drop of 1.4 p.c. and the non-residential series moved up only fractionally.

Annual and Monthly General Wholesale and Special-Purpose Price Indexes, 1952-57

(1935-39=100)

NOTE.—All 1957 indexes and Canadian farm products indexes subsequent to July 1956 are subject to revision.

Period	General Wholesale Prices	Raw and Partly Manufactured	Fully and Chiefly Manufactured	Canadian Farm Products	Residential Building Materials	Non-residential Building Materials (1949=100)
1952.....	226.0	218.7	230.7	250.2	284.8	123.2
1953.....	220.7	207.0	228.8	221.6	282.6	124.4
1954.....	217.0	204.8	224.2	211.8	277.5	121.8
1955.....	218.9	209.7	224.5	209.7	283.4	123.4
1956.....	225.6	215.8	231.5	211.9	292.9	128.0
1957—January....	229.4	217.8	236.5	211.6	293.3	130.0
February.....	228.4	214.9	236.8	210.1	293.4	130.1
March.....	228.4	212.5	237.8	206.8	293.8	130.1
April.....	228.4	211.7	238.3	207.5	293.6	130.1
May.....	228.0	209.6	238.8	206.4	294.5	130.2
June.....	228.0	209.8	238.8	208.4	294.3	129.5
July.....	228.2	209.1	239.5	212.7	294.1	130.6
August.....	227.6	207.9	239.2	212.6	293.3	130.4
September....	226.7	206.4	238.6	208.5	292.5	130.2
October.....	224.8	203.5	237.2	200.7	291.5	130.2
November....	224.0	203.1	236.1	199.7	288.6	130.0
December....	225.9	206.0	257.2	204.6	288.5	130.4

Retail Prices.—The consumer price index experienced its sharpest annual increase since the Korean war period of 1950-51, rising 3.2 p.c. from 118.1 in 1956 to 121.9 in 1957. The series of monthly increases which started in May 1956 continued through 1956 and most of 1957 to a peak of 123.4 in October, easing slightly to 123.1 by the year-end.

In 1957, higher consumer prices were widespread. In foods, 85 p.c. of the items priced for inclusion in the index were at higher prices than in 1956,

and 15 p.c. were lower. In clothing, furniture, electrical appliances and pharmaceuticals, 68 p.c. were higher, 6 p.c. unchanged and 26 p.c. lower. In the diversified group of services such as haircuts, telephone rates, dry cleaning and hospital rates, 86 p.c. moved to higher price levels, 5 p.c. were unchanged and 9 p.c. lower.

Four of the five groups shown in the following table (for which indexes are published monthly) contributed to the over-all increase; foods lead the way with a rise of 4.6 p.c., followed by a 4.3-p.c. increase in miscellaneous commodities and services. Shelter, continuing a long upward trend, rose 1.8 p.c. and the household operation group increased 2.1 p.c. Clothing remained virtually unchanged.

Consumer Price Index Numbers, 1952-57

(Av. 1949 = 100)

Year and Month	Food	Shelter	Clothing	Household Operation	Other Commodities and Services	Total
1952.....	116.8	120.2	111.8	116.2	116.0	116.5
1953.....	112.6	123.6	110.1	117.0	115.8	115.5
1954.....	112.2	126.5	109.4	117.4	117.4	116.2
1955.....	112.1	129.4	108.0	116.4	118.1	116.4
1956.....	113.4	132.5	108.6	117.1	120.9	118.1
1957.....	118.6	134.9	108.5	119.6	126.1	121.9
1957—January.....	117.1	133.6	107.6	119.0	123.1	120.3
February.....	117.2	133.8	107.4	119.1	123.8	120.5
March.....	116.4	134.0	108.2	119.5	124.2	120.5
April.....	116.7	134.0	108.5	119.4	125.1	120.9
May.....	116.7	134.2	108.5	119.2	126.3	121.1
June.....	117.7	134.8	108.4	119.1	126.5	121.6
July.....	118.2	135.1	108.4	119.6	126.5	121.9
August.....	120.2	135.3	108.2	119.7	126.9	122.6
September.....	121.9	135.6	108.3	119.8	127.1	123.3
October.....	121.7	135.9	108.7	120.1	127.4	123.4
November.....	120.2	136.3	109.8	120.5	127.7	123.3
December.....	118.8	136.7	109.9	120.6	128.4	123.1

At the Toronto stockyards, buyers, sellers and packers meet to discuss supply and demand. From their information, a Department of Agriculture market reporter determines the price levels for the day which are telephoned to the radio station and broadcast at noon. This service enables the producer to judge his best selling point.





Her holds filled with Canadian goods and her bunkers loaded for a long trip ahead, a Norwegian cargo ship heads out of her berth at Montreal harbour and down the river. Framed between a German freighter and a cargo shed is a common scene on the Montreal waterfront.

Foreign Trade

INTERNATIONAL trade, like domestic, is based on division of labour and is limited by the extent of the market. What specialization shall be practised by an individual country and which markets exploited is the outcome of a variety of factors the most important of which are geographical and technological. Geography has been of great importance to Canada both from the nature of resource endowment and from the proximity of the United States, but technology has also played its part, especially in recent years when it has become increasingly profitable to develop mineral resources. The structure of Canadian trade has altered somewhat over the past thirty years without, however, more than moderately diminishing the over-all importance of trade to the Canadian economy.

In the early part of the century, Canada exchanged the products of her farms, forests and fisheries—grains, cattle, meat, lumber, furs, and cured fish—for primary products not obtainable domestically and for manufactured goods and equipment. The impact of this pattern is still discernible, but exports have become more varied, minerals more important, and agricultural products have lost their relative pre-eminence. In 1956, about 23 p.c. of Canadian exports originated on the farms, 32 p.c. in the forests and about 36 p.c. were of mineral origin.

The importance of foreign trade to the Canadian economy may be gauged by comparing the trade totals to the gross national product and relating the comparisons to the relative shares claimed in the gross national product by some other economic categories. Thus, in 1956, exports of Canadian goods and Canadian imports of foreign goods accounted for about 16 p.c. and 19 p.c. of the gross national product respectively, whereas total domestic investment in new construction, machinery and equipment, which is widely recognized as a key factor in economic progress, was responsible for some 22 p.c.—new construction accounting for 14 p.c. and investment in machinery and equipment for 8 p.c.. The comparisons become the more sharp when it is realized that 1956 was a year of exceptionally high investment and that the share of exports was lower than in any recent year. Nor, in fact, do the comparisons completely underline the importance of trade. The gross national product includes goods and services which, by their nature, cannot enter into trade. Thus it might be more significant to compare exports with the total of movable goods—primary products plus manufactures and excluding construction; in 1956 the appropriate figure was about 33 p.c.

In more general terms, the importance of trade to Canada may be seen by considering two of the relevant figures for the United States which is, of course, the world's leading trader. In 1956, exports from the United States amounted to some 4 p.c. of the gross national product and to 9 p.c. of the total of movable goods. Thus, although the United States accounts for a much higher proportion of international trade, such trade has more significance for the Canadian than for the American economy.

Canadian trade has, in recent years, reflected the outstanding expansion of the domestic economy. Exports increased sharply in 1955 and 1956, and although the rapid increase was halted in 1957 the total for that year was

nevertheless a record. Imports rose even more quickly than exports in the earlier years, but in 1957 fell short of their record level. Thus the import balance, which has characterized this period of rapid expansion, was reduced from the peak of \$842,000,000 reached in 1956.

The relatively small total trade changes in the latest year were paralleled by equally slight changes in Canadian general economic activity and by mixed changes in foreign demand for Canadian goods. In 1957 the Canadian gross national product value increased roughly 3 p.c. compared with an 11-p.c. rise in 1956. The volume change in 1957 was negligible whereas the gain had been about 7 p.c. the year before. Business investment in machinery, equipment and industrial construction was not the marked expansionary factor it had been in 1955 and 1956—a fact reflected in the small decline in imports of iron and steel products—and the total volume of production showed little change. A sharp fall in crop production was offset by increases in mining, construction and services, and manufacturing output averaged close to the level of 1956 with a small decline in durable goods and a slight increase in non-durable goods. Mineral production had the largest increase, reflected in major export gains by some minerals like petroleum, uranium and nickel.

Exports, Imports and Total Trade of Canada, 1952-57

(Millions of Dollars)

Year	Exports			Imports	Total Trade	Balance of Trade
	Domestic Produce	Foreign Produce	Total			
1952.....	4,301.1	54.9	4,356.0	4,030.5	8,386.4	+325.5
1953.....	4,117.4	55.2	4,172.6	4,382.8	8,555.4	-210.2
1954.....	3,881.3	65.6	3,946.9	4,093.2	8,040.1	-146.3
1955.....	4,281.8	69.5	4,351.3	4,712.4	9,063.7	-361.1
1956.....	4,789.7	73.4	4,863.1	5,705.4	10,568.6	-842.3
1957.....	4,839.1	95.3	4,934.4	5,623.4	10,557.8	-689.0

International Background.—Following the Korean war, many countries experienced a moderate slackening in business operations but activity and trade had almost universally begun to recover by the second half of 1954, and in 1955 the total volume of world trade was 18 p.c. higher than it had been in the previous record year of 1951. In 1956 there was a value increase of 11 p.c., and in 1957 the expansion continued but at a reduced rate of about 6 p.c. Over the same period the official gold and dollar reserves of countries outside the United States and the Soviet area continued to rise, reaching a total of U.S. \$29,000,000,000 in 1956. This was U.S. \$1,600,000,000 higher than in the previous year, but a considerable proportion of the increase was accounted for by support given to certain countries from the International Monetary Fund. In 1957 the total reserves fell somewhat as a consequence of uneven changes affecting various countries.

In recent years Canada has ranked fourth in total trade—following the United States, the United Kingdom and the Federal Republic of Germany—



Grain-handling facilities at the Lakehead—Fort William and Port Arthur—will undergo alterations to permit the loading of ocean vessels when the St. Lawrence Seaway is completed. The export of grain by this route will benefit by the use of larger carriers over a longer distance and by fewer transfers during transit.



among the trading nations of the world. On a per capita basis Canada normally holds a leading place, usually alternating with New Zealand for first place.

Leading Countries in World Trade, 1955 and 1956

NOTE.—Countries ranked by total trade and total trade per capita in 1956. Sources of data: Trade—International Monetary Fund; Population—United Nations Statistical Office.

Country	Exports, f.o.b.		Imports, c.i.f.		Total Trade	
	1955	1956	1955	1956	1955	1956
VALUE OF TRADE (Millions of U.S. Dollars)						
United States.....	15,553 ¹	19,081 ¹	12,369	13,752	27,922 ¹	32,833 ¹
United Kingdom.....	8,468	9,292	10,867	10,890	19,335	20,182
Germany, Federal Republic.....	6,135	7,358	5,793	6,617	11,928	13,975
Canada.....	4,784	5,277	5,152	6,255	9,936	11,532
France.....	4,911	4,538	4,739	5,553	9,650	10,091
Netherlands.....	2,688	2,862	3,208	3,712	5,896	6,574
Belgium and Luxembourg.....	2,776	3,162	2,330	3,272	5,606	6,434
Japan.....	2,011	2,501	2,471	3,230	4,482	5,731
Italy.....	1,856	2,157	2,711	3,169	4,567	5,326
Sweden.....	1,726	1,945	1,997	2,209	3,723	4,154
World Trade².....	84,177	93,335	88,969	97,910	173,146	191,245
TRADE PER CAPITA (U.S. Dollars)						
Canada.....	305	328	328	389	633	717
Belgium and Luxembourg.....	303	342	308	354	611	697
New Zealand.....	334	349	370	340	705	689
Switzerland.....	263	287	299	352	562	639
Netherlands.....	250	263	299	341	549	604
Norway.....	185	223	318	350	503	573
Sweden.....	238	266	275	302	513	568
Venezuela.....	331	357	189	210	520	567
Hong Kong.....	190	231	278	327	468	558
Denmark.....	238	249	265	294	504	543

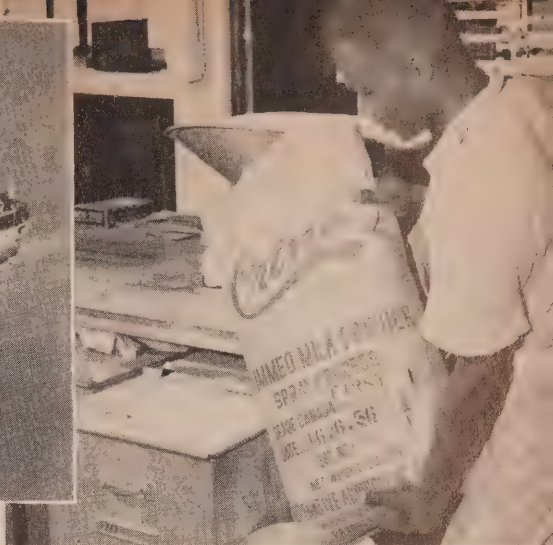
¹ Includes military aid extended to other countries. ² Exclusive of China, U.S.S.R., and eastern European countries not currently reporting trade.



Canadian Holsteins in Venezuela. There is a growing export trade in purebred dairy cattle and hogs with South American countries.



This auxiliary transport ship, one of three built in a Canadian shipyard for the Argentine Navy, is being used for cadet training.



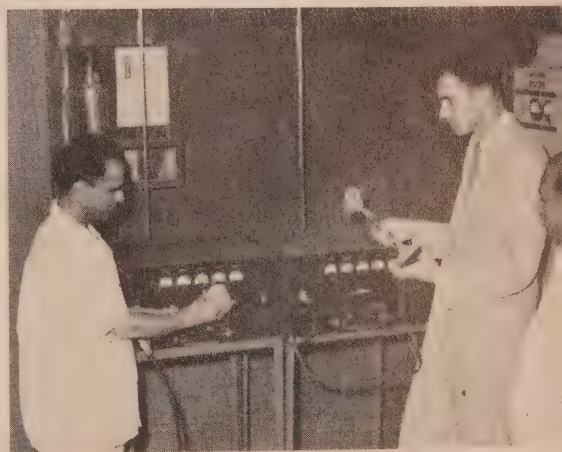
Skim milk powder, the product of a Granby, Que., co-operative factory, goes into the making of Bermuda's bread.

The postwar recovery and expansion of world economic activity and international trade have taken place against a background of international agreement and organization directed towards re-creating a harmonious international economy; and as the initial problems of postwar restoration and those associated with the unusual fluctuations of 1950-52 have receded, the nature of the long-term objective has become more evident. Essentially, this is to reconcile the universal desire for economic growth and internal stability, at the level of full employment, with external equilibrium, bearing specially in mind that rates of economic growth tend to differ markedly. Thus, though the path toward less discriminatory trade and more convertible currencies might generally be upward, it has not so far been, nor is it likely to be, entirely smooth.

Although the movement toward general convertibility seems, at least temporarily, to have been halted, an important recent development has been the signing, in March 1957, of the treaty establishing the European Economic Community. This treaty proposes to establish a customs union (in which tariffs among participants



The distinguished driver of this Canadian tractor is the Sultan of Morocco, whose country has been doing considerable business with Canadian manufacturers.



Canadian-made radio transmitters in use for aeronautical communications at an airport in India.

will be abolished over time and a common commercial policy applied against countries outside the union) among the Benelux countries, France, Italy and the Federal Republic of Germany; and the Organization for European Economic Co-operation undertook to negotiate another treaty which would set up a free trade area covering most of Western Europe and including the six signatories to the customs union treaty. If the free trade area were established, participating countries, other than the six, would retain their national tariff barriers against countries outside the area. Of particular interest to Canada is the proposed British association with the area and the possible effects on markets for agricultural exports.

Canadian Trade Trends.—In the period of readjustment that followed the outbreak of the Korean war, Canadian exports declined—mostly because of reduced foreign markets for grains and especially wheat—in 1953. Imports in that year increased somewhat but fell in 1954, the decline being widespread but most noticeable in machinery and equipment and textiles. In 1955, Canadian trade swung sharply upward, exports reflecting increased foreign demand for commodities other than grains (which fell again but less sharply), whereas the import gains were spread over most leading commodities. The following year, expansion continued at an increased rate and value and volume records were established for both exports and imports. On the export side, the strong recovery of wheat sales was significant, while iron and steel products contributed greatly to the import increases. An important feature of both import and export trends in recent years was the accelerated pace of exploration and development of Canada's natural resources which increased import demand for machinery and equipment and caused an upswing in such exports as oil, iron ore and uranium.

Although there was relatively little over-all change in total exports in 1957, the main commodity groups showed considerable and diverse movement. Farm products, accounting for just over one-fifth of all domestic exports, and forest products, responsible for something under one-third, both fell moderately, while commodities of mineral origin, which took some two-fifths of the total, increased by about one-tenth. The decrease in farm products was caused mostly by the sharp decline in the sale of wheat and other grains. Both the regular European market and the special market in the Soviet countries, which had been important in the previous year's recovery, were affected, although wheat continued to be the second leading export commodity—accounting for something over 7 p.c. of the export total. The decline in wheat was partially offset by a very strong increase in cattle sales.

Exports of newsprint advanced moderately and although it continued as the most important single commodity, the advance did not offset declines among other forest products, especially planks and boards, which suffered from declines in construction activity, and wood pulp. The much more moderate fall of the latter enabled it to edge planks and boards out of third place among leading commodities. Among commodities of mineral origin, exports of iron ore continued to reflect additions to productive capacity and increased though not as sharply as in the previous two years. Pigs, ingots, blooms and billets rose very substantially while non-farm machinery and passenger automobiles went up at a somewhat higher rate than iron ore. A moderate decline in aluminum and sharper declines in copper, lead and zinc were more than compensated by a doubling of exports of nickel and

A turbine gear, part of a hydro-electric generator built in England for use in an Ontario plant, travels by special flat car from dock-side in Montreal to its destination.



Automobiles and buses from Europe arriving at Toronto harbour. During 1957 almost 54,000 such vehicles were imported into Canada from the United Kingdom and other European countries.



Special apparatus is used to unload bulk sugar brought to Montreal from the West Indies. A clamshell grabs the sugar from the ship's hold and dumps it onto a 1,000-foot conveyor belt which carries it to the top of the refinery warehouse.





Canadian mink fur enjoys an enviable reputation in world markets. Pelts exported in 1957 were valued at about \$17,000,000. This young lady is surrounded by \$30,000 worth.

uranium. Non-metallic minerals were again dominated by crude petroleum which increased by about one-third. Among the miscellaneous commodities of mixed origin, exports of aircraft and parts fell by more than one-half, while those of used ships increased more than threefold to record one of the largest relative gains.

Principal Domestic Exports, 1953-57

NOTE.—Commodities ranked by value of exports in 1957.

Commodity	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000
Newsprint.....	619,033	635,670	665,877	708,385	715,490
Wheat.....	567,907	375,339	338,216	513,081	380,415
Wood pulp.....	248,675	271,418	297,304	304,536	292,406
Planks and boards.....	282,103	324,724	385,313	326,445	281,681
Nickel, primary and semi-fabricated.....	162,542	182,154	215,169	222,909	248,253
Aluminum, primary and semi-fabricated.....	173,378	182,392	210,971	234,806	229,386
Copper, primary and semi-fabricated.....	117,351	127,334	163,924	194,206	162,109
Iron ore.....	30,843	39,719	99,814	144,443	152,281
Petroleum, crude and partly refined.....	6,228	6,318	36,253	103,923	140,975
Uranium ores and concentrates..	¹	8,056	26,533	45,777	127,935
Asbestos, unmanufactured.....	83,973	82,566	94,804	99,895	107,058
Barley.....	136,729	89,363	76,461	94,977	67,522
Farm implements and machinery (except tractors) and parts....	67,821	70,819	72,206	63,937	67,339
Whisky.....	63,086	59,156	60,862	68,660	66,994
Zinc, primary and semi-fabricated	57,572	58,392	70,558	74,011	64,921
Flaxseed (chiefly for crushing)....	11,546	13,717	31,279	43,624	64,719
Fish, fresh and frozen.....	51,219	56,650	55,263	59,594	63,186
Wheat flour.....	102,160	88,029	74,442	71,549	61,175
Machinery (non-farm) and parts.	38,618	38,172	35,789	47,130	57,177
Fertilizers, chemical.....	42,633	42,342	56,296	49,211	48,958

¹ Not available.

General import changes were moderate in 1957 compared with the very marked increases of the previous two years. However, sharper, if diverse, movements were recorded by individual commodities. Despite a small decline, iron and steel products were still by far the most important and the fact that they accounted for over one-third of the import total helps to explain the moderate changes in imports as a whole. The importance of industrial machinery among these products makes them follow closely the movements in industrial investment. Among iron products, non-farm machinery increased in the early part of the year and was again the leading import item, accounting for something over 10 p.c. of all imports. The other major commodities in this group declined more or less sharply with the exception of pipes, tubes and fittings which (largely because of the activity in pipeline construction) rose by about one-third to displace both tractors and parts and passenger automobiles in individual commodity-ranking.

CF-100's with Belgian Air Force markings at the handing-over ceremony conducted at Beauchevain.



The Canadian aviation industry has recently experienced unprecedented success in the export field. The sale of 225 Canadair Sabres to Germany was followed by sales to other countries, and Belgium's order for 54 Avro CF-100's—supplied by NATO—is recognition of Canadian competence in design and construction. Light all-purpose aircraft are in service all over the world.

Offers and Beavers are standard equipment for IGY expeditions in the Antarctic.





Newsprint remains the most important single commodity in Canada's export trade. Canadian mills provide more than half of the world's newsprint needs.

Electrical apparatus fell slightly, but still remained in fourth place among leading commodities, while crude petroleum increased by something less than one-third and replaced automobile parts as second-ranking commodity.

Principal Imports, 1953-57

NOTE.—Commodities ranked by value of imports in 1957.

Commodity	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000
Machinery (non-farm) and parts.	401,856	380,219	445,875	628,521	631,599
Petroleum, crude and partly refined.	213,094	212,737	229,779	271,291	305,557
Automobile parts (except engines)	222,284	180,433	246,505	284,788	260,075
Electrical apparatus, <i>n.o.p.</i>	198,275	207,539	226,715	257,292	249,328
Rolling-mill products (steel)	124,813	97,563	129,679	234,709	221,257
Pipes, tubes and fittings	58,327	59,680	50,290	123,088	147,727
Tractors and parts	126,354	82,814	115,375	159,627	127,658
Engines, internal combustion, and parts	107,736	84,914	100,917	120,986	123,870
Automobiles, passenger	79,454	60,846	83,726	125,539	106,596
Aircraft and parts (except engines)	111,803	100,397	138,091	91,304	93,691
Coal, bituminous	94,680	70,445	74,453	96,516	90,692
Tourist purchases	73,840	68,767	71,467	75,205	77,403
Fuel oils	65,151	70,921	77,754	81,799	76,204
Sugar, unrefined	47,491	51,519	52,312	55,828	75,632
Farm implements and machinery (except tractors) and parts	82,795	60,351	62,874	72,522	74,572
Non-commercial items	60,923	56,763	72,929	83,098	72,328
Cotton fabrics	55,906	46,012	53,400	62,130	65,049
Paperboard, paper and products	35,208	43,558	52,690	61,954	62,027
Coffee, green	57,595	64,214	57,010	62,657	59,120
Principal chemicals (except acids) <i>n.o.p.</i>	54,505	46,193	57,677	61,871	54,487

Leading Trading Partners.—The leading country in Canadian trade is the United States, with which industrial materials are exchanged for manufactured goods and, to a lesser extent, chemicals, fuels and certain products such as cotton and citrus fruits which are not available in Canada. The United Kingdom, which ranks second to the United States, supplies manufactured goods and machinery, such as industrial equipment and electrical apparatus, and receives mainly grains, non-ferrous metals and forest products. A similar pattern of trade has been established with most of Europe and Japan, whereas Latin America and many Commonwealth countries are more interested in Canadian manufactured goods in exchange for primary commodities. Imports and exports do not, of course, exactly equal one another and Canada has in recent years tended to import more than has been exported. This has resulted from the rapid economic development of the country which has increased the customary import balance with the United States, and not even the export balance normally recorded in trade with the United Kingdom has been sufficient to offset completely the excess of imports from the United States.

In 1956, the United States accounted for about 66 p.c. and the United Kingdom 12 p.c. of total Canadian trade. Europe (excluding Commonwealth countries) was responsible for 7.9 p.c., Latin America for 5.1 p.c. and the Commonwealth countries (excluding the United Kingdom) for 4.5 p.c. Although the ranking of these countries and areas in Canadian trade has been generally consistent since the end of the War, there have been some noteworthy changes in the relative shares. The position of the United States improved by about 11 p.c. between 1946 and 1956 and by about 8 p.c. between 1948 and 1956. The share of the United Kingdom fell little between 1946 and 1948 but by almost 5 p.c. in the subsequent seven years, while the Commonwealth had a somewhat similar experience and consequently yielded third place to Europe in the group being considered.

A 54-member Canadian Trade Mission toured the United Kingdom late in 1957 for the purpose of interesting the British manufacturer in the Canadian market and generally expanding Canadian-United Kingdom trade. The Hon. Gordon Churchill (left), Minister of Trade and Commerce, headed the Mission.



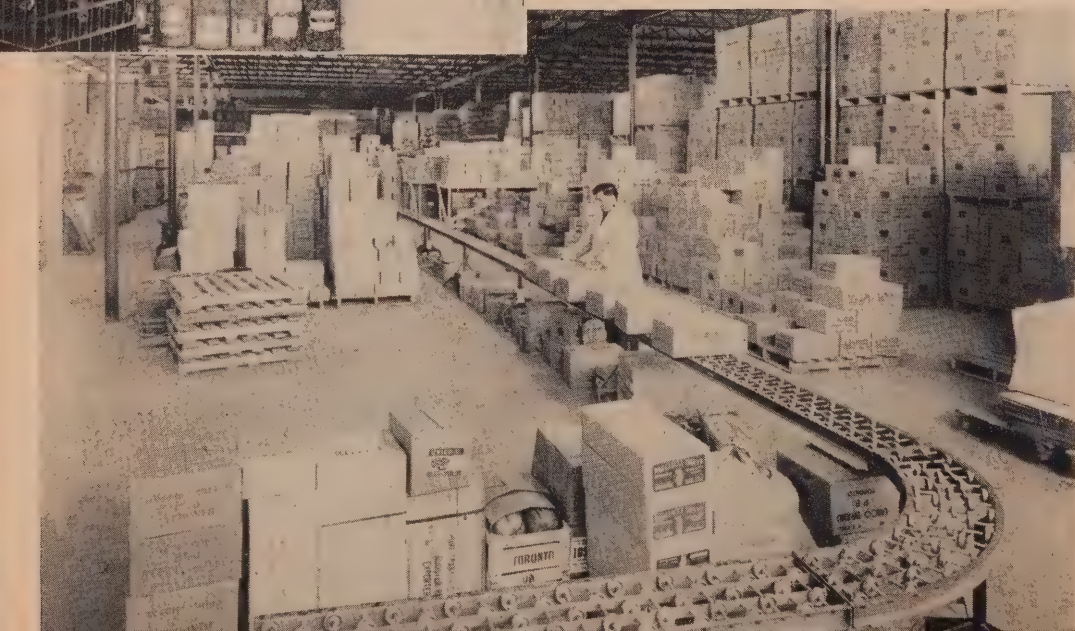
Domestic Exports to Leading Countries, 1953-57

NOTE.—Countries ranked by value of exports in 1957.

Country	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000
United States	2,418,915	2,317,153	2,559,343	2,818,655	2,867,608
United Kingdom.....	665,232	653,408	769,313	812,706	737,530
Germany, Federal Republic.....	83,858	86,899	90,751	134,098	151,939
Japan.....	118,568	96,474	90,893	127,870	139,152
Netherlands.....	42,382	39,777	47,689	54,559	69,849
Italy.....	33,170	23,844	27,653	37,744	62,842
Belgium and Luxembourg.....	69,510	54,987	53,384	57,852	60,402
France.....	32,281	33,799	42,563	53,156	57,506
Norway.....	37,278	43,813	47,031	57,682	55,548
Australia.....	39,629	45,768	58,482	47,747	48,883
Union of South Africa.....	50,763	39,883	56,026	64,616	48,441
Mexico.....	28,986	27,359	37,126	39,385	42,613
Venezuela.....	36,485	30,973	30,756	34,335	39,844
Panama.....	4,380	4,097	2,824	7,748	30,665
India.....	37,187	17,689	24,669	25,714	28,991
Brazil.....	37,561	45,096	11,520	13,026	25,798
Switzerland.....	29,833	26,826	25,640	33,535	25,045
Jamaica.....	12,490	11,552	12,907	17,222	19,487
Philippines.....	13,872	15,863	18,136	18,060	17,540
New Zealand.....	7,475	14,807	22,344	17,995	16,964



Food imports include not only items that cannot be produced in Canada, such as coffee, tea, spices, cane sugar, southern fruits and out-of-season vegetables, but also fancy foods for the luxury trade and a growing amount of staple foods of other countries desired by new Canadians. The latter are usually carried in specialty shops but are appearing in greater or lesser quantities in general grocery stores, depending on their clientele.





During the second half of 1957 about \$40,000,000's worth of live beef cattle were exported from Canada to the United States. A prolonged drought in Texas and Arizona had reduced the cattle population in that country and Canadian cattle were brought in to utilize an exceptionally large feed corn crop for which there was no market.

Imports from Leading Countries, 1953-57

NOTE.—Countries ranked by value of imports in 1957.

Country	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000
United States.....	3,221,214	2,961,380	3,452,178	4,161,667	3,998,549
United Kingdom.....	453,391	392,472	400,531	484,679	521,958
Venezuela.....	155,147	167,594	187,277	208,401	248,145
Germany, Federal Republic.....	35,507	44,485	55,603	89,348	97,646
Japan.....	13,629	19,197	36,718	60,826	61,605
Belgium and Luxembourg.....	29,082	25,077	29,051	52,728	44,066
Jamaica.....	11,761	15,309	15,567	24,633	40,210
Netherlands Antilles.....	8,154	20,582	30,722	38,119	39,269
France.....	22,267	22,046	25,016	32,600	36,183
Brazil.....	35,047	31,623	30,747	34,832	35,325
Arabia.....	2,196	2,225	6,986	24,712	34,316
Italy.....	14,271	15,006	18,502	24,967	33,012
India.....	26,627	28,054	35,147	30,898	29,248
Australia.....	23,464	24,657	26,295	26,310	28,728
Malaya and Singapore.....	21,896	19,586	28,810	28,558	27,356
Netherlands.....	22,298	22,562	20,951	23,776	25,396
Switzerland.....	20,437	19,151	19,365	22,301	24,660
Mexico.....	15,785	14,033	28,814	41,699	21,113
British Guiana.....	17,800	20,482	18,307	20,498	21,003
Colombia.....	23,215	24,820	22,220	23,056	18,190

Canadian Balance of International Payments

In addition to foreign merchandise trade, Canada has a variety of other current exchanges of services and capital with other countries. All these economic transactions are presented in statements of the Canadian balance

of payments. Exchanges of services and merchandise trade are included in the current account, while the capital account shows the direction and extent of movements of capital between Canada and other countries.

Outstanding among the features of Canada's balance of payments during the past eight years are the deficits that have arisen from excess of imports of goods and services over exports of goods and services, and the capital inflows for private investment in industry. The capital inflows have been associated with growth and development and have, in turn, contributed to the current deficits by augmenting demands for imported goods and services. In the 1950's there was a current deficit in each year except in 1952 when a combination of special influences contributed to a small surplus. The deficits increased from \$334,000,000 in 1950 to \$698,000,000 in 1955 and rose again to \$1,372,000,000 in 1956, being larger in absolute terms than in any earlier year and relatively comparable with deficits in some earlier periods of exceptional development in Canada. In the first half of 1957 the deficit rose even further but in the second half the level declined although it continued to be unusually high. The accompanying inflows of long-term capital, financing the deficit in 1956, were three times as high as in the previous year, and were even heavier in the first part of 1957.

Traditionally, Canada's deficits with the United States have been offset by surpluses with overseas countries. But the over-all deficits of recent years have been the result of rapidly growing deficits with the United States at a time when surpluses with overseas countries have been declining.

The financing of recent large external deficits was accomplished with little or no strain on the Canadian balance of payments. The capital inflows which served this purpose were generally of a long-term character reflecting participation in Canadian growth opportunities through direct and portfolio equity investment. These sources of financing were buttressed at times by large increases in foreign-held funded debt in response to divergent interest rate structures in Canada and in the United States. Such differences arose in part from the heavy demands for capital in Canada accompanying the rapid growth. Movements of short-term capital have also occurred on a comparatively large scale, but have generally played a balancing role and the inflows and outflows have, over time, tended to offset each other. The persistent long-term inflows of capital have kept the Canadian dollar at a premium on the world's exchange markets.

International Investment Position.—Canada's gross external liabilities amount to over \$18,000,000,000 of which more than half represents foreign investment in Canadian enterprises controlled by non-residents. A substantial part of the remainder covers portfolio investment in Canadian corporations by non-residents. Canada's gross external assets are more than \$7,000,000,000 of which \$4,000,000,000 is represented by government loans to overseas countries, subscriptions to international financial organizations, and holdings of gold and foreign exchange. Canada's net foreign indebtedness has grown rapidly in recent years and is now about three times as large as in 1949. It is estimated that during 1957 the growth in Canada's net external debt was approximately \$400 for every family in Canada.

Dependence on external sources for some types of capital, together with the special advantages often associated with this capital, has led in Canada to a degree of foreign ownership and control of industry unique in economic

history. By the end of 1954 foreign investment accounted for 61 p.c. of the ownership of the Canadian petroleum industry, and represented control of 70 p.c. The mining industry was also 60 p.c. foreign-owned and 56 p.c. foreign-controlled. Manufacturing other than petroleum refining was 47 p.c. foreign-owned and 51 p.c. foreign-controlled. The degree of foreign ownership and control varied considerably in different branches of manufacturing. Other areas of Canadian wealth such as utilities, merchandising, housing and social capital are, of course, Canadian-owned and controlled to a much larger extent than are the petroleum, mining or manufacturing industries. Since the date to which these ratios relate, foreign long-term investment in Canada has continued to grow at an accelerated rate.

A very substantial part of foreign capital in Canada now takes the form of equity investment and, as a result of the retention of earnings, foreign investments in Canada increase each year by some hundreds of millions of dollars more than the capital actually imported. Indeed, during the postwar years the earnings accruing to non-resident investors but retained in Canada to finance expansion have amounted to well over \$3,000,000,000. In addition, there are the actual transfers of investment income which currently take place at an annual rate exceeding \$500,000,000. The significant part of the corporate profits in the Canadian economy which accrues to non-residents is a measure of the important place of foreign capital, which has helped to set the unusual pace of the current development.

Bauxite ore for Quebec's smelters is unloaded at Port Alfred, a deepsea port on the St. Lawrence River at the mouth of the Saguenay. The ore comes from British Guiana, Jamaica and the Los Islands of French West Africa, and most of the aluminum ingots from the Arvida and Isle Maligne smelters are shipped again from this port to world markets.



The Department of Trade and Commerce

The services of the Department of Trade and Commerce and associated agencies of the Government contribute significantly to the development of Canada's commercial relations with trading interests in other countries. Perhaps paramount among such services are those of the Canadian Trade Commissioners whose offices in 46 countries are staffed with trained Canadian trade officials familiar with all aspects of foreign trade in the countries to which they are assigned as well as with the current Canadian industrial scene as a whole. They provide the latest information on potential markets for specific Canadian products and on the competitive conditions, exchange, tariff, shipping and labelling regulations which the Canadian exporter must meet. They also assist the Canadian importer in locating sources of supply for a wide variety of goods not indigenous to Canada.

Closely integrated with the Trade Commissioner Service and of vital importance in the promotion of foreign trade is the Department's Commodity Branch of specialists whose function it is to keep the Trade Commissioners advised of products available for export, to relay market news received from abroad to Canadian exporters, and to develop opportunities for promoting sales abroad of Canadian products.

The Agriculture and Fisheries Branch serves as a liaison in these fields with the Department of Agriculture, the Department of Fisheries, the Canadian Wheat Board and other government departments and boards concerned with marketing surplus Canadian products abroad and with receiving from the Trade Commissioner Service the latest information on government policy, production and market trends of those countries with which Canada competes on the world market, particularly in wheat, coarse grains, livestock, meats and dairy products. Canadian exporters of fisheries and agricultural products are assisted in finding markets in other countries.

The review of Canada's trade relations under trade treaties with other countries, the preparation of material for trade and tariff negotiations, participation in conferences and negotiations under the General Agreement on Tariffs and Trade, and the interpretation and clarification of foreign regulations for Canadian exporters are the principal services of the International Trade Relations Branch. The carrying out of a continuous review and analysis of the general economic situation in Canada is the responsibility of the Economics Branch.

Assistance offered by the Government in the establishment of new industries in Canada and new lines of industrial production is co-ordinated by the Industrial Development Branch of the Department, while the Export Credits Insurance Corporation insures Canadian exporters against losses arising from credit and political risks involved in the export of goods.

The promotion of Canadian external trade is likewise a principal objective of the Canadian Government Exhibition Commission which is responsible for the construction and administration of Government of Canada exhibits at international expositions and trade fairs. The Trade Publicity Branch, on the other hand, conducts an educational and promotional program designed to inform the Canadian exporter and importer of the services of the Department and to stimulate a better appreciation by the general public of the significance of trade to the national welfare.



Preparing the model showing road transportation in Canada.

Montreal sculptor Louis Archambault working on a mural consisting of ten panels, each representing a province of Canada. The mural, 125 feet long, extends partly outside and partly inside the broad entrance to the building.



The Canadian Pavilion at the Brussels Universal and International Exhibition, being held from April to October in 1958, was designed to give a sense of spaciousness and relaxation. It is a three-storey building with a white steel frame, constructed of two-tone grey glass and cobalt-blue masonite, and in it the visitor will find many ingenious exhibits portraying the life and work of the Canadian people—their government, their resources, their industrial, social and cultural development.



Malak

Steel, the basic commodity of industry, is an expensive product. It requires unlimited sources of iron ore, ships and railways to transport it, vast outlays of money to build and equip the plants necessary for processing, and a large force of workers to transform the raw mass into man's most useful metal.

Canada has all the requirements to become one of the world's major producers of iron and steel. With recent expansion, the industry is now equipped to produce a large proportion of the steel needs of the country.



Finance

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FINANCE, in all its varied aspects, constitutes a vital ingredient in the life of the people of Canada. A highly favourable political and economic climate—stable government, sound banking institutions and monetary policies, extensive natural resources, and a greatly increased internal and external demand for the output of new and expanded industries—has resulted in an enormous growth of new capital investment. The marked expansion of such investment from abroad, principally the United States, is enabling Canada to become more nearly self-sufficient in such commodities as oil and iron ore, and is adding to the variety of its exports. At the same time, the more active participation by Canadian investors, through savings placed with their banks, insurance companies and trust companies, will ultimately permit greater Canadian participation than at present in the larger risk enterprises associated with development of their natural resources and in the ownership of the new industrial facilities arising therefrom. In the meantime, their bank savings and credit facilities, their insurance premiums, and their government taxes pour into the economic bloodstream of the nation to serve many forms of enterprise—industry, construction, merchandising, public utilities, education, consumer needs and government services at all levels, thereby promoting high levels of economic activity, employment and social welfare.

Private and Public Investment

INVESTMENT plans, both private and public, call for a total capital expenditure in 1958 of \$8,500,000,000, which represents an aggregation of the investment intentions of individual business establishments, institutions, housebuilders and all levels of government. A capital expenditure program of this magnitude

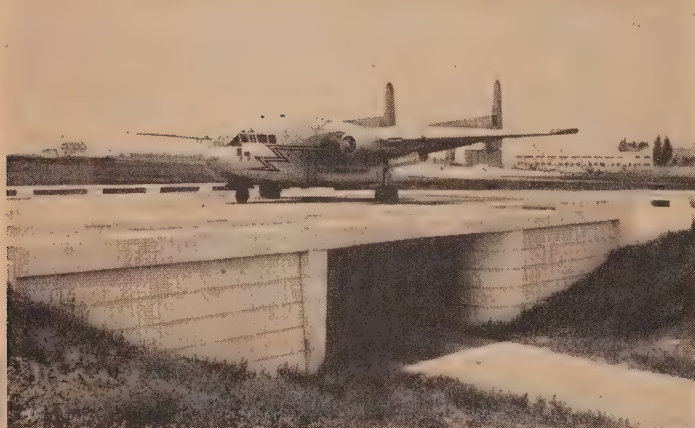
would be slightly smaller than the record \$8,700,000,000 spent for capital purposes in 1957 but would be well ahead of any other year. These estimates provide for a volume of construction spending slightly greater than that of 1957 and for a reduction of 10 p.c. in machinery purchases. If the 1958 program proceeds as planned, capital spending would continue to comprise more than 25 p.c. of gross national production.

The trend in capital spending in recent years is shown in the following table.

Private and Public Capital Expenditures, 1947-58

Year	Construction	Machinery and Equipment	Total	Percentage of Gross National Product
	\$'000,000	\$'000,000	\$'000,000	
1947.....	1,424	1,065	2,489	18.1
1948.....	1,877	1,298	3,175	20.3
1949 ¹	2,124	1,378	3,502	21.3
1950.....	2,366	1,449	3,815	21.0
1951.....	2,735	1,842	4,577	21.3
1952.....	3,263	2,022	5,285	22.7
1953.....	3,665	2,176	5,841	23.9
1954.....	3,680	1,940	5,620	23.1
1955.....	4,314	2,036	6,350	23.6
1956.....	5,301	2,723	8,024	26.9
1957.....	5,921	2,800	8,721	28.3
1958.....	5,991	2,530	8,521	—

¹ Newfoundland included from 1949.



Ottawa's \$4,500,000 air terminal takes shape. It is situated near the centre of the airport and access will be by subway under one of the landing strips. This is one of six major terminals now under construction across the country ranging in cost from \$3,000,000 at Gander to \$20,000,000 at Toronto.



The trends in capital spending anticipated for 1958 are the outcome in large part of the particular pattern of capital expansion occurring over the past few years. During 1955 and 1956 an unusually large volume of new expansion programs was initiated. This was stimulated by a sharp increase in world demand for the products of a number of Canada's resource-based industries which in turn caused expansion in industrial materials, power and transportation industries. Many projects initiated in these years reached the point of highest activity in 1957, resulting in a record level of capital outlays in that year. Throughout this period the rapid rate of expansion placed a considerable strain on the available supplies of labour, materials and funds with the result that in some areas—particularly housing, institutions and municipal governments—the rate of expansion was not commensurate with the increased demands.

Meanwhile, the economic climate began to change. Increased productive capacity at home, greater availability of imports and an expanded labour force brought an easing in the pressure on supplies. At the same time, markets for industrial materials turned softer and the additional capacity which had been created for many of these products was more than sufficient to meet current demands. This sometimes resulted in a cutting back of investment programs, such as in the mining industry. On the other hand, the easier supply situation enabled some projects to proceed more rapidly than anticipated. The changing situation was conducive also to an increase in housebuilding and, with the aid of government funds, housing activity rose sharply during the latter part of 1957. In total, capital outlays in 1957 exceeded by about 2 p.c. the level planned at the beginning of the year and almost reached the figure outlined in intentions as of mid-year.

Thus, 1958 intentions have been framed against a background of excess capacity in a number of resource industries, a continuing strong demand for social capital and housing and an easier supply position in regard to labour, materials and funds.

Private and Public Capital Expenditures, by Sector and Province, 1956-58

NOTE.—1956 figures are actual expenditures, 1957 figures are preliminary and 1958 figures are intentions.

Sector and Year		Construction	Machinery and Equipment	Total
Sector		\$'000,000	\$'000,000	\$'000,000
Agriculture and fishing.....	1956	99	389	488
	1957	92	389	481
	1958	93	387	480
Forestry.....	1956	41	35	76
	1957	25	18	43
	1958	19	17	36
Mining, quarrying and oil wells.....	1956	378	164	542
	1957	392	193	585
	1958	285	116	401
Manufacturing.....	1956	488	906	1,394
	1957	538	888	1,426
	1958	408	733	1,141
Utilities.....	1956	1,086	638	1,724
	1957	1,564	749	2,313
	1958	1,515	721	2,236

*Private and Public Capital Expenditures, by Sector and Province,
1956-58—concluded*

Sector or Province and Year	Construction	Machinery and Equipment	Total
	\$'000,000	\$'000,000	\$'000,000
Sector—concluded			
Construction industry.....1956	16	184	200
.....1957	25	136	161
.....1958	20	109	129
Housing.....1956	1,575	—	1,575
.....1957	1,415	—	1,415
.....1958	1,635	—	1,635
Trade—wholesale and retail.....1956	177	148	325
.....1957	220	160	380
.....1958	210	160	370
Finance, insurance and real estate.....1956	99	25	124
.....1957	119	24	143
.....1958	124	24	148
Commercial services.....1956	51	111	162
.....1957	80	116	196
.....1958	55	115	170
Institutional services.....1956	359	43	402
.....1957	399	44	443
.....1958	476	51	527
Government departments.....1956	932	80	1,012
.....1957	1,052	83	1,135
.....1958	1,151	97	1,248
Totals.....1956	5,301	2,723	8,024
.....1957	5,921	2,800	8,721
.....1958	5,991	2,530	8,521
Province			
Newfoundland.....1956	66	28	94
.....1957	62	36	98
.....1958	69	30	99
Prince Edward Island.....1956	15	9	24
.....1957	14	10	24
.....1958	18	12	30
Nova Scotia.....1956	122	61	183
.....1957	113	66	179
.....1958	141	66	207
New Brunswick.....1956	136	50	186
.....1957	109	53	162
.....1958	114	55	169
Quebec.....1956	1,260	591	1,851
.....1957	1,402	621	2,023
.....1958	1,379	602	1,981
Ontario.....1956	1,788	1,054	2,842
.....1957	2,124	1,095	3,219
.....1958	2,295	944	3,239
Manitoba.....1956	243	121	364
.....1957	266	123	389
.....1958	278	146	424
Saskatchewan.....1956	298	187	485
.....1957	310	196	506
.....1958	303	179	482
Alberta.....1956	623	278	901
.....1957	606	224	830
.....1958	695	231	926
British Columbia.....1956	748	341	1,089
.....1957	914	378	1,292
.....1958	700	266	966

Burlington Skyway
—an 8,700-foot
highway bridge.



Completion in 1958 of the Burlington Skyway, across the entrance to Hamilton harbour and past Burlington Beach at the west end of Lake Ontario, will carry the heavy flow of traffic between Toronto and Niagara and eliminate a serious bottleneck on the Queen Elizabeth Way. This will be a toll road, Ontario's first since 1919.

New-type fluorescent fixtures will light the finished structure.

Construction Activity

Total construction expenditures in 1958 are expected to increase slightly from the levels of 1957. The anticipated additional strength is largely attributable to anticipated increases in housing expenditures. Housing starts were at a very low level in the first half of 1957 but improved substantially as the year progressed. By the last quarter of the year, the seasonally adjusted annual rate of starts was in excess of 140,000. For the year as a whole, about 122,000 new housing units were started and about 117,000 completed. In view of the prospects of a readily available supply of mortgage funds, it is assumed that starts for 1958 as a whole will be 10 to 15 p.c. greater than those of 1957. This, along with an increased carryover of uncompleted houses, would involve an increase of more than 15 p.c. in the number of new housing units completed and thus an increase of about 15 p.c. in the value of housing under way.



▲ B.C. Electric Building, Vancouver

Park Plaza Hotel, Toronto ▼



City Hall, Saskatoon ▼



THE CHANGING FACE OF THE TOWNSCAPE

Recent social and industrial changes in Canada have had their effect on the physical urban scene. As business and industry have expanded, hundreds of thousands of people have poured into the cities and towns and new construction has become commonplace. In the city centres, new business buildings tower above the old, factories and warehouses have mushroomed in the industrial areas and, as population has increased, new residential districts have extended far beyond municipal limits, demanding the necessary community facilities—schools, churches and shopping centres. Structures, both industrial and residential, are functional in design and modern in aspect, embodying the progressive efforts of the builder, the architect and the researcher, and attempting to provide the best possible environment in which to work and live.

A city Post Office of attractive design. ▼



A new factory, typical of recent industrial construction.





Homes and schools have taken on
a new look. ▼



The Vancouver Art Gallery, and a western shopping
centre. ▼



Church at Bagotville, Que. ▼



A branch bank with drive-in facilities. ▼



However, the anticipated increase in house-building is likely to be partially offset by a moderate decline in non-residential construction. Present plans call for outlays for this type of construction to be 3 p.c. lower in 1958. Anticipated increases in expenditures for institutional and public buildings, road construction and municipal improvements are not likely to be sufficient to offset the declines expected in outlays for new industrial and mining structures.

Value of Construction Work Performed, 1949-58

NOTE.—1949-56 figures are actual, 1957 figures are preliminary and 1958 figures are forecasts.

Year	New	Repair	Total	Percentage of Gross National Product
	\$'000,000	\$'000,000	\$'000,000	
1949.....	2,124	732	2,856	17.3
1950.....	2,366	766	3,132	17.2
1951.....	2,734	927	3,661	17.0
1952.....	3,282	916	4,198	18.0
1953.....	3,666	974	4,640	19.0
1954.....	3,700	1,023	4,723	19.6
1955.....	4,270	1,041	5,311	19.8
1956.....	5,301	1,082	6,383	21.5
1957.....	5,921	1,130	7,051	22.7
1958.....	5,991	1,131	7,122	—

Value of New and Repair Construction Work Performed, 1955-57

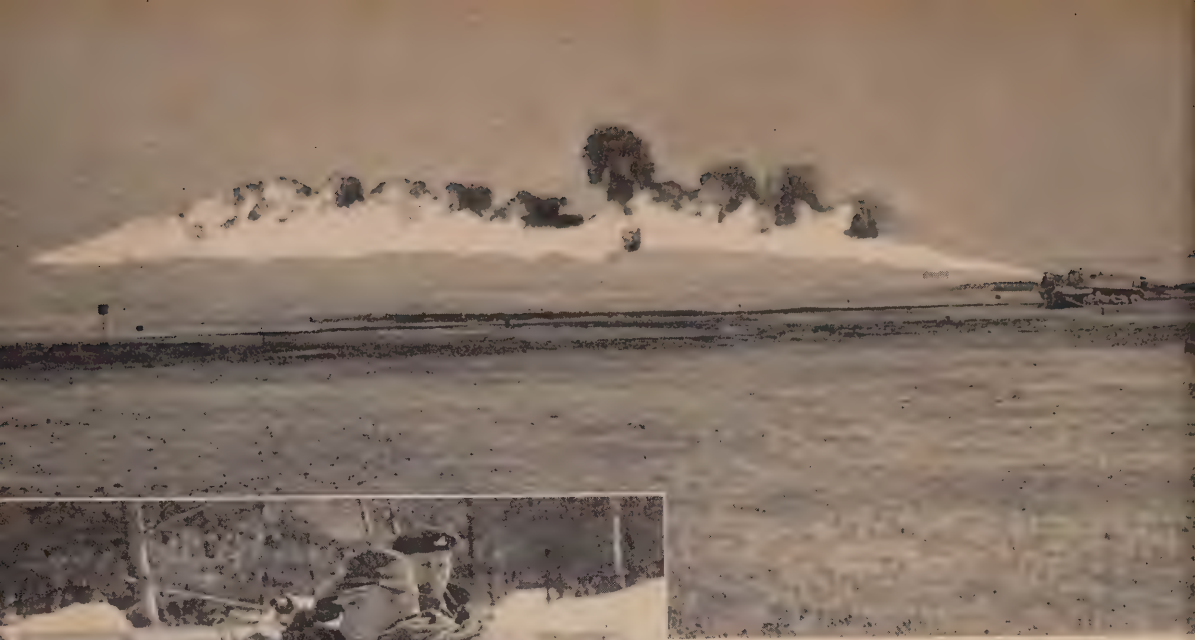
NOTE.—1955 figures are actual, 1956 figures are preliminary and 1957 figures are forecasts.

Type of Construction	1955		1956		1957	
	New	Repair	New	Repair	New	Repair
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Building.....	2,811	567	3,184	604	2,989	619
Residential.....	1,499	238	1,575	256	1,283	273
Industrial.....	294	105	475	118	454	114
Commercial.....	427	86	510	89	599	89
Institutional.....	408	56	398	52	477	51
Other.....	183	82	226	89	176	92
Engineering.....	1,459	474	2,076	525	2,574	520
Roads, highway and aero- drome construction....	359	160	448	169	485	181
Waterworks and sewage systems.....	127	21	168	26	220	27
Dams and irrigation....	35	5	53	6	51	6
Electric power construc- tion.....	301	37	420	41	582	45
Railway, telephone and telegraph construction.	144	168	202	187	228	162
Gas and oil facilities....	311	28	505	28	640	30
Marine construction....	61	15	112	16	156	17
Other engineering.....	121	40	168	52	212	52
Totals, Construction..	4,270	1,041	5,260	1,129	5,563	1,139



During the past ten years the Federal Government has been conducting an extensive building program in Ottawa and elsewhere to provide efficient and uncrowded working facilities for the Government services and to overcome the decentralization within individual departments that had resulted from a rapid growth of personnel and from insufficient space.

The current \$20,000,000 building program for the Department of Mines and Technical Surveys will provide four new buildings in the vicinity of the present Mines Laboratories and the Dominion Observatory in south-central Ottawa. This group of buildings, the last of which will be completed in 1961: will house all the services of the Department and enhance the efficiency with which it serves the mineral industry of Canada.



Defence, even in peacetime, is expensive. It has long been the Federal Government's main item of expenditure and in the postwar years has accounted for about one-third of the budget.

▲ The Defence Research Board is the scientific part of the defence structure. It operates eleven specialized research and development establishments and is primarily concerned with weapons and armament, and with naval, telecommunications, arctic, medical, aeronautical and materials research problems of special interest to Canadian defence.



▼ Canada's new aircraft carrier, HMCS Bonaventure, with the performance of her aircraft, the CS2F-1 Tracker and FSH-3 Banshee, have revolutionized deck operations. The vessel embodies the latest developments in equipment.



Government Finance

THE division of powers and responsibilities of government (including taxation) between the Federal Government and the constituent provinces is set out in the British North America Act of 1867, the foundation of Canada's constitution, and has remained through all subsequent amendments and the additional Acts relating thereto.

Financial exigencies, changing needs, and the inevitable struggle for revenues among the different levels of government during the past couple of decades have resulted in demands for amendments to the constitution and in different interpretations thereof, and the holding of a number of conferences between the federal and provincial authorities at which consideration has been given to financial problems, particularly to the division of the "tax dollar". More specifically, to provide revenue for heavy national expenditures during the Second World War and at the same time control inflationary tendencies, the provincial governments vacated the income and corporation tax fields in favour of the Government of Canada for the duration of the War and a limited period thereafter in exchange for a tax rental fee.

These Agreements of 1942 were succeeded at five-year intervals by the Dominion-Provincial Tax Rental Agreements of 1947 and 1952. Under the 1952 Agreements, all provinces except Ontario and Quebec agreed to lease their personal and corporation income taxes, special corporation taxes and succession duties to the Government of Canada in exchange for a rental fee. Ontario, which had not entered into the 1947 Agreements, also agreed to lease personal and corporation income taxes and special corporation taxes but retained the right to levy succession duties. The Province of Quebec, which since 1947 has levied corporation and corporation income taxes, in 1954 imposed its own personal income tax approximating 10 p.c. of that levied by the Federal Government.

As the 1952 Agreements would lapse on Mar. 31, 1957, a Federal-Provincial Conference was held in October 1955 to consider future fiscal relations. The outcome of the conference was the passage of the Federal-Provincial Tax-Sharing Arrangements Act of 1956 which provided three types of sharing of three sources of revenue between the two levels of government. First, the provinces could by agreement share in the revenues derived from the federal collection of the three standard taxes to the extent of 10 p.c. of the individual income tax, a percentage point of the corporation tax, and half the succession

duty. Second, provision was made for an equalization payment, designed to bring the per capita income in each province up to the average of the two highest provinces. In addition, a stabilization payment—so far utilized by



RCN's future airmen in training.

only Prince Edward Island and British Columbia—provided assurance that none of the provinces would lose, on the implementation of the new Act in 1957, any of the benefits enjoyed during the previous five-year period.

Following a two-day Dominion-Provincial Conference summoned by the Diefenbaker Administration in November 1957 and expected to be reconvened during 1958, an interim measure covering the fiscal year commencing Apr. 1, 1958, was introduced in the House of Commons on Jan. 27, 1958, increasing from 10 p.c. to 13 p.c. that portion of the 'standard individual income tax' which the ten provinces were entitled to receive under the Federal-Provincial Tax-Sharing Arrangements Act of 1956. Linked with the above was a second measure providing Atlantic adjustment grants of \$25,000,000 for each of four fiscal years and divided as follows: Nova Scotia, New Brunswick and Newfoundland each \$7,500,000, and Prince Edward Island \$2,500,000.

Thus, once more, consideration is being given to a pressing demand from the provincial governments for a larger share of the revenues available, with the national authorities viewing it in the light of their own requirements and in the broad national interest.

There have been similar adjustments of revenue and responsibilities as between the provinces and the local or municipal authorities they have created, the demands by such authorities on the provinces being weighed against the needs of the provincial governments. Here, consideration of reallocation of powers and revenue, arising usually as a result of submissions and appeals from groups of local officials, have also effected changes from time to time.

It is most important that solutions of these intergovernmental problems be found at intervals, as the number, volume and diversity of public services and the sources and amount of revenue continue to change and expand. Governments now provide services and collect revenue unheard of or undeveloped in years past, but these accrue in ever-changing proportions and, while adjustments cannot be continuous, they must be sought periodically to maintain equity and efficiency.

Finances of the Federal Government

The financial operations of the Federal Government involve more than the proper allocation of the tax burden, economy of expenditure and well-planned debt management. In the federal field there is sometimes a different emphasis caused by wartime stress, by actions intended to relieve depression or halt inflation, or by social philosophy, all of which may be summed up in the phrase "money management". The latter is not specifically mentioned in the British North America Act, but nevertheless it has long been a function of sovereign states, more fully understood as the study of the economics of finance has developed.

In the more routine aspects of its financial operations, the Government of Canada levies direct and indirect taxes, of which the income tax, individual and corporation, yields the largest return. Excise taxes (including a general sales tax), excise duties and customs duties also produce a very substantial sum. Succession duties and some other taxes yield relatively minor amounts, and certain non-tax revenues, special receipts and credits accrue each year from financial transactions outside the tax fields. A 2-p.c. sales tax, a 2-p.c. individual income tax with a maximum of \$60, and a 2-p.c. corporation income tax are levied in addition to the regular taxes from these sources to



The Premiers of Canada's ten provinces met with the Prime Minister in November 1957 to discuss financial problems. From left, seated: Mr. Stanfield of Nova Scotia, Mr. Frost of Ontario, Prime Minister Diefenbaker, Mr. Duplessis of Quebec, and Mr. Flemming of New Brunswick. Standing: Mr. Manning of Alberta, Mr. Matheson of Prince Edward Island, Mr. Campbell of Manitoba, Mr. Bennett of British Columbia, Mr. Douglas of Saskatchewan, and Mr. Smallwood of Newfoundland.

sustain the Old Age Security Fund, from which pensions are paid to persons over seventy years of age.

The income tax has been the chief source of revenue of the Federal Government since before World War II. Rates of tax on individual incomes were increased considerably and other forms of income tax were introduced to help finance the War but after hostilities ceased a succession of reductions in rates and increases in exemption allowances relieved some of the burden for the taxpayer. Taxes on corporation incomes were also reduced and the excess profits tax was abolished. However, the expansion of personal income, the growth of the labour force and the growth of industry generally in the postwar years has offset the effect of the reduction in rates and the revenue from income taxes continues to grow each year.

For personal income tax purposes, the present (1958) exemptions from income in respect of marital status and dependants are: \$1,000 basic exemption with additional exemptions of \$1,000 for persons taxed as married and \$500 for persons 65 years of age or over; maximum exemptions for dependants of \$250 each are allowed, or \$500 if the dependant is not eligible for family allowance. The rate structure for 1958 ranged from 13 p.c. on the first \$1,000 of taxable income to 78 p.c. on income in excess of \$400,000, including the Old Age Security Tax of 2 p.c. up to \$60.

By far the largest item of expenditure of the Government of Canada is defence services. Other expenditures of major significance are made for health and social welfare, veterans' pensions and other benefits, transportation



Direct social security assistance given indiscriminately by the Federal Government benefits the two age extremes—the young and the old.

The allowance paid to children under the age of sixteen years is an attempt to equalize opportunity for all young Canadians.

and natural resources. Payment of debt charges and tax agreement payments to the provinces are also major items. The output for defence, health and welfare, veterans' benefits, debt charges and payments to provinces has, during and since the War, caused much of the great growth in federal expenditure.

Revenue and Expenditure of the Federal Government, Year Ended Mar. 31, 1956

Source	Revenue	Function	Expenditure
Taxes—	\$'000		\$'000
Income—		Defence services.....	1,644,060
Corporations.....	1,081,056	Veterans' pensions and other benefits.....	244,948
Individuals.....	1,288,100	General government.....	208,135
Interest, dividends, and other income going abroad.....	66,176	Protection of persons and property.....	51,676
General sales.....	801,887	Transportation and communications.....	174,009
Excise duties and special excise taxes—		Health.....	57,387
Alcoholic beverages.....	141,917	Social welfare.....	853,376
Tobacco.....	236,839	Recreational and cultural services.....	17,983
Automobiles.....	76,194	Education.....	25,496
Other commodities and services.....	54,708	Natural resources and primary industries.....	158,759
Customs import duties.....	481,240	Trade and industrial development.....	17,648
Succession duties.....	66,607	National Capital area planning and development.....	5,914
Other.....	16,771	Debt charges (excluding debt retirement).....	438,185
Total Taxes.....	4,311,495	Payments to government enterprises.....	76,808
		Payments to provincial and municipal governments—	
Privileges, licences and permits..	18,804	Federal-provincial taxation agreements.....	320,166
Sales and services.....	42,835	Other.....	38,596
Fines and penalties.....	847	Other expenditure—	
Exchange fund profits.....	10,806	International co-operation and assistance.....	148,208
Receipts from government enterprises.....	60,473	Postal service.....	148,288
Bullion and coinage.....	3,291	Other.....	44,443
Postal service.....	158,569	Non-expense and surplus payments.....	339
Other revenue.....	8,664		
Non-revenue and surplus receipts	51,941	Total Net General Expenditure.....	4,674,424
Total Net General Revenue.	4,667,725		

Finances of the Federal Government, Years Ended Mar. 31, 1868-1957

NOTE.—These figures are derived from the *Public Accounts of Canada* and differ from those in the preceding table. Revenue and expenditure in this table are on a gross basis and net debt here represents the excess of gross debt over net active assets.

Year	Total Revenue	Per Capita Revenue ¹	Total Expenditure	Per Capita Expenditure ¹	Net Debt at End of Year	Net Debt Per Capita ²
	\$	\$	\$	\$	\$	\$
1868.....	13,687,928	3.95	13,716,422	3.96	75,757,135	21.58
1871.....	19,375,037	5.34	18,871,812	5.21	77,706,518	21.06
1881.....	29,635,298	6.96	32,579,489	7.66	155,395,780	35.93
1891.....	38,579,311	8.07	38,855,130	8.13	237,809,031	49.21
1901.....	52,516,333	9.91	55,502,530	10.47	268,480,004	49.99
1911.....	117,884,328	16.87	121,657,834	17.40	340,042,052	47.18
1921.....	436,888,930	51.06	528,899,290	61.82	2,340,878,984	266.37
1931.....	357,720,435	35.04	441,568,413	43.26	2,261,611,937	217.97
1941.....	872,169,645	76.63	1,249,601,446	109.80	3,648,691,449	317.08
1943.....	2,249,496,177	193.02	4,387,124,118	376.45	6,182,849,101	524.19
1951.....	3,112,535,948	226.99	2,901,241,698	211.58	11,433,314,948	816.14
1952.....	3,980,908,652	284.17	3,732,875,250	266.46	11,185,281,546	775.14
1953.....	4,360,822,789	302.21	4,337,275,512	300.57	11,161,734,269	755.14
1954.....	4,396,319,583	297.43	4,350,522,378	294.33	11,115,937,064	731.55
1955.....	4,123,513,300	271.37	4,275,362,888	281.37	11,263,080,154	721.95
1956.....	4,400,046,639	282.04	4,433,127,636	284.15	11,280,368,964	706.35
1957.....	5,106,540,880	317.55	4,849,035,298	301.54	11,007,651,158	663.55

¹ Based on estimated population as at June 1 of the immediately preceding year.

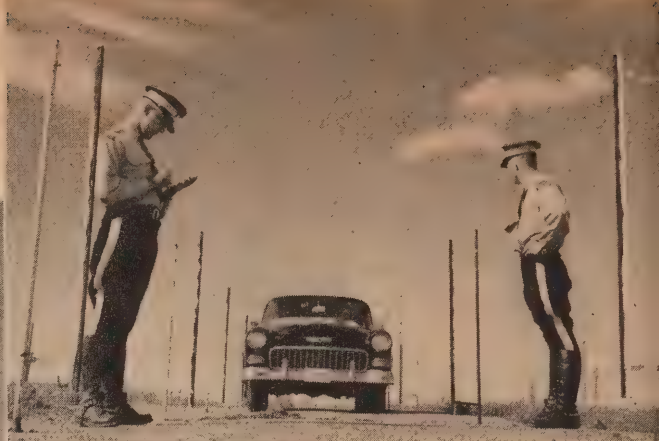
² Based on estimated population as at June 1 of same year.

Revenue of the Government of Canada reached an all-time high in the year ended Mar. 31, 1957, of approximately \$5,107,000,000, and the highest expenditures were made in the year ended Mar. 31, 1944, during World War II (\$5,322,000,000). The net debt reached a peak of \$13,421,000,000 at Mar. 31, 1946, but budgetary surpluses for each of the next eight years reduced the figure to \$11,116,000,000 by Mar. 31, 1954. Budgetary deficits in the following two years increased the net debt to \$11,280,000,000 by Mar. 31, 1956, and a surplus in 1956-57 lowered it to \$11,008,000,000.

The universal pension paid to elderly persons supplements their life savings and often makes the difference between comfort and want.



The Royal Canadian Mounted Police recruit undergoes a rigid and relentless training that will either give him a place in that renowned Force or reject him.



The RCMP is responsible for the enforcement of federal laws throughout the country and also, by agreement, for certain provincial laws. Its colourful reputation has been won by a continuously high standard of service to the individual, the community and the country.

Inflation in the general price level and population growth through the years have reduced the significance of the size of the Government of Canada debt, and the great expansion of the Canadian economy allows the country to support the present debt on a sound financial basis. On Mar. 31, 1939, the net debt amounted to 60.2 p.c. of the gross national product; by 1946 this had risen to 113.3 p.c. but by Mar. 31, 1957, the net debt amounted to only 36.9 p.c. of the national product.

The outstanding unmatured funded debt (including treasury bills) of the Government of Canada at Mar. 31, 1957, amounted to over \$14,368,000,000. The portion of the unmatured funded debt payable in Canada was 97.5 p.c., the portion payable in London amounted to 0.4 p.c. and in New York 2.1 p.c.

Provincial Finance

Under the distribution of legislative functions between the federal and provincial authorities, the latter are concerned with those subjects bearing upon the everyday life, activity and welfare of the citizen—such as the protection of persons and property, local undertakings in respect of transportation and communications, natural resources, education, health and welfare, and the incorporation of companies in the province and licensing of shops for provincial or municipal purposes. Hence, the sources of revenue collected for provincial purposes embrace various licences, permits, fines, penalties, sales

taxes and royalties, augmented by federal government subsidies, health grants, certain equalization and development payments, and other income under the operations of the Federal-Provincial Tax-Sharing Arrangement Act of 1956, with amendments announced by the Government of Canada late in January 1958.

*Net General Revenue and Expenditure of Provincial Governments,
Year Ended Mar. 31, 1956*

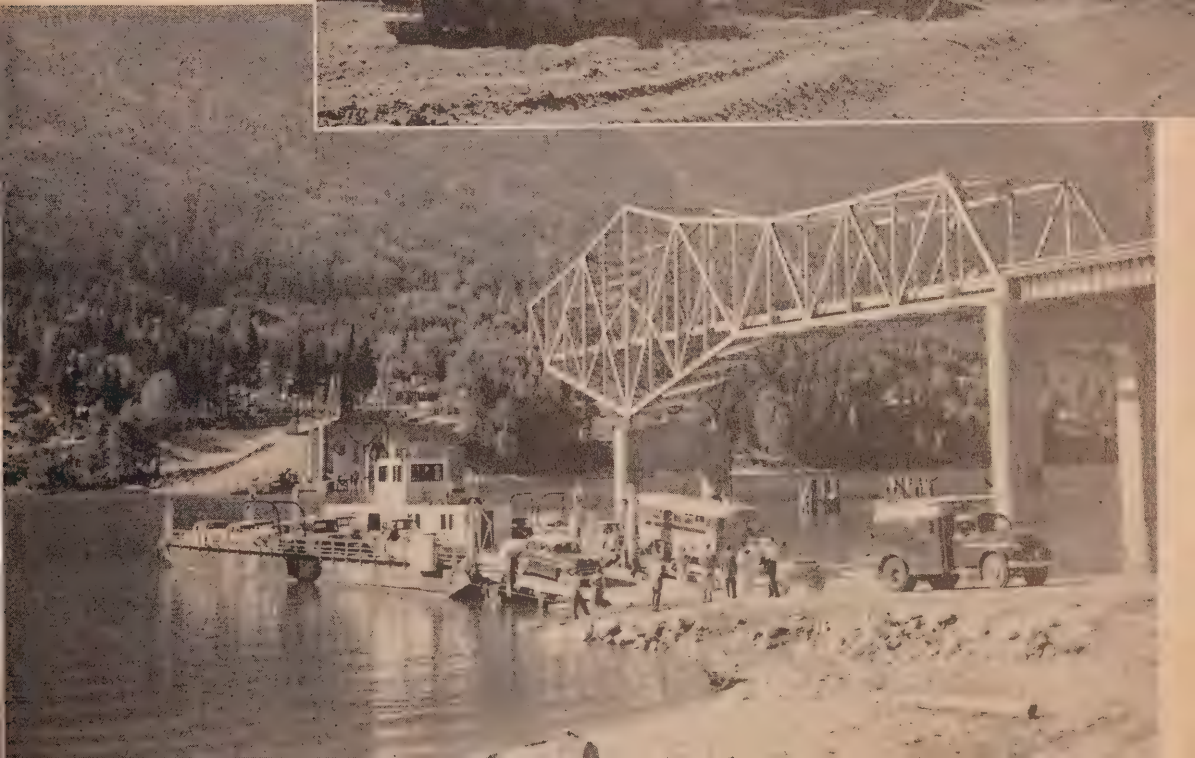
Province	Revenue	Expenditure	Province or Territory	Revenue	Expenditure
	\$'000	\$'000		\$'000	\$'000
Nfld.....	33,534	42,419	Sask.....	102,702	100,781
P.E.I.....	8,044	10,343	Alta.....	225,326	159,375
N.S.....	54,329	57,688	B.C.....	230,773	207,490
N.B.....	52,783	54,451	Yukon.....	1,785	1,405
Que.....	412,745	399,713	N.W.T.....	916	728
Ont.....	431,802	488,932			
Man.....	59,349	51,940	Totals.....	1,614,088	1,575,265

Improvements in transportation and communication facilities have taken the largest portion of provincial government expenditures for many years—the amount was estimated at about \$560,360,000 for the year ended Mar. 31, 1957.

Expenditure on roads in Ontario alone was \$287,380,000.



A bridge spanning the west arm of Kootenay Lake in British Columbia will replace a cable ferry.



Analysis of Net General Revenue and Expenditure of Provincial Governments, Year Ended Mar. 31, 1956

Source	Revenue	Function	Expenditure
	\$'000		\$'000
Taxes.....	664,756	General government.....	64,921
Federal tax rental agreements....	320,310	Protection of persons and property.....	82,387
Privileges, Licences and Permits—		Transportation and communications.....	447,988
Motor vehicles.....	114,264	Health.....	246,902
Natural resources.....	256,905	Social welfare.....	133,931
Other.....	50,966	Recreation and cultural services	11,811
Sales and services.....	24,196	Education.....	332,938
Fines and penalties.....	5,293	Natural resources and primary industries.....	122,149
Other Governments—		Trade and industrial development.....	8,060
Government of Canada—share of income tax on power utilities.....	7,947	Local government planning and development.....	3,292
Subsidies.....	23,421	Debt charges.....	138,523
Municipalities.....	244	Contributions to local governments.....	36,570
Government enterprises.....	142,625	Contributions to government enterprises.....	10,108
Other revenue.....	935	Other expenditures.....	12,977
Non-revenue and surplus receipts	2,226	Non-expense and surplus payments.....	6,414
Total.....	1,614,088	Total.....	1,658,971
SUMMARY OF LIQUOR CONTROL REVENUE		Less Debt Retirement (included above).....	83,706
(included above)—		Total, exclusive of Debt Retirement.....	1,575,265
Sales tax.....	2,073		
Permits.....	32,710		
Fines and penalties.....	756		
Profits.....	139,167		
Confiscations.....	57		
TOTAL.....	174,763		

In the fiscal year ended Mar. 31, 1958, payments of the Federal Government to the provincial governments under the Federal-Provincial Tax-Sharing Arrangements constituted a major revenue source of the provinces. Other main sources were sales taxes on motor fuel and fuel oil, general sales taxes, liquor profits, and privileges, licences and permits. Corporation taxes and taxes on personal and corporation income provide a considerable portion of the revenue of the Province of Quebec. The largest expenditures of the provinces are for transportation (mainly highways), health and social welfare, education, and natural resources and primary industries.

Direct and indirect debt of provincial governments, less sinking funds, as at Mar. 31, 1956, amounted to over \$4,000,000,000, direct debt averaging out to \$156.63 per capita, and indirect debt to \$102.87 per capita. Total debt of the provinces has been increasing for a number of years, though the qualification mentioned as to the burden of federal debt—that it has become lighter because of inflation and increased population—has some application to provincial debt as well.

Municipal Finance

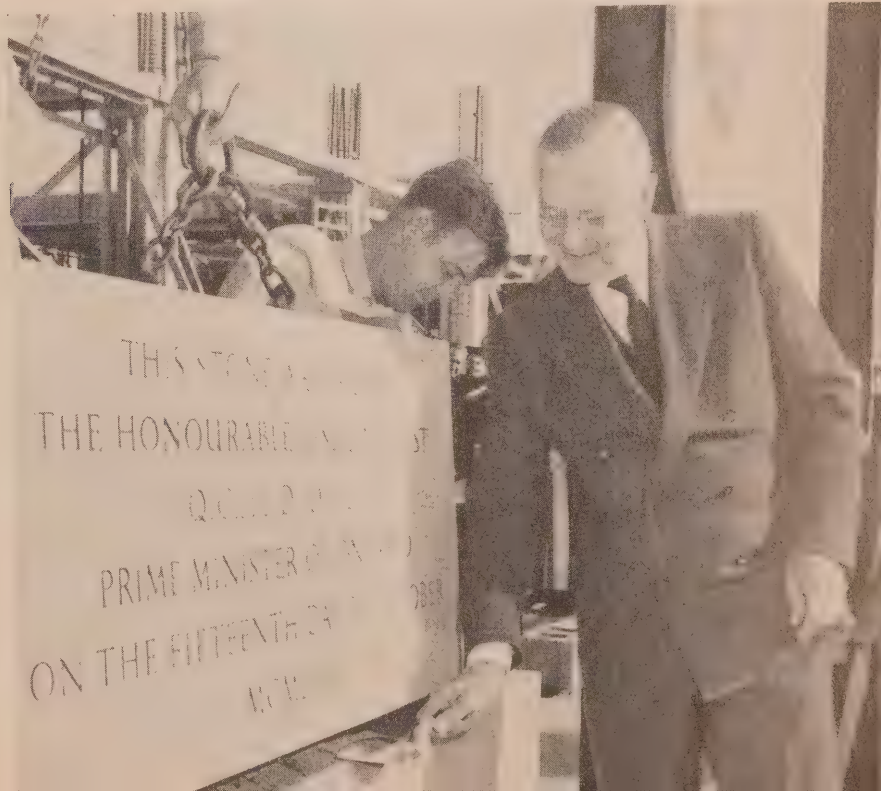
Incorporated municipalities include within their boundaries only a small portion of the area of Canada but they serve most of the population. Outside lie a few school districts and in parts of municipally unincorporated territory some local services are provided by the provincial government concerned. A great part of the area of Canada has not sufficient density of population to

warrant even these limited activities. In most provinces, the municipalities levy the local taxation for school authorities but exercise little or no control over school administration or finance. In much of Quebec and Prince Edward Island and in limited areas of some other provinces, school authorities levy and collect local taxes. There is no municipal taxation for school purposes in Newfoundland, as schools are denominational and largely financed by the Province.

The largest source of revenue for municipalities and other local authorities, yielding over two-thirds of the total, is the real property tax. Also varying in importance from province to province are business and other taxes, licences and permits, public utility contributions, and provincial grants and subsidies. Of municipal expenditure from current revenue almost a third goes to support local schools. Other major expenditures are for public welfare, roads and streets, protection of persons and property, and debt charges. Increasingly substantial sums of borrowed capital have been expended in recent years in an attempt to catch up and keep up with the streets, sanitation systems, water systems and other municipal services required by urban municipalities, whose population and development have increased at a rate far beyond that of the remainder of the country.

Municipal debt in most urban areas has increased at such a rate as to offset the inflationary and population growth factors which have held down the burden of federal and provincial debt, though this situation probably applies also in many rural municipalities. Provincial governments supervise the issuance of municipal debt, and limit it by legislation or by regulatory formulae. In some instances, provinces are now aiding municipalities and schools in their capital projects by various methods, such as by outright grants, loans, sharing of debt charges, and assumption of debt. The whole question of municipal finance and municipal-provincial education relationships is undergoing much thought and review.

The Premier of Ontario, the Hon. Leslie M. Frost, on Oct. 15, 1957, laid the cornerstone of the first building of Carleton University's new campus on the banks of the Rideau River in Ottawa. Plans envisage from 30 to 35 buildings costing about \$10,000,000 by 1965, and a full-time student body of about 2,000.





More than 140 years have passed since the first bank was established in Canada—the beginning of a branch bank system particularly suited to Canadian business activity. On Nov. 3, 1817, a modest office opened for business in Montreal, the creation of nine merchants. It had a capital of \$250,000 and a staff of seven. From their enterprise has grown the present Bank of Montreal with 721 offices from coast to coast in Canada and abroad, with assets of \$2,700,000,000 and a staff of some 12,000 men and women.

Banking

THE origin of Canadian banking antedates Confederation and the first institution was formed in Montreal in 1817. Since then other banks have been formed, but only a moderate number have existed at any given time. A few amalgamations have taken place and, in the past few years, two consolidations have reduced the number of chartered banks to nine. Six of the present institutions are truly national in character, having numerous branches in each province; two confine their major activities to the Province of Quebec, and one was formed by foreign capital to engage in foreign trade transactions through three branch offices in major cities.

There are several noteworthy features of the Canadian banking system that have given it an international reputation for strength, stability and flexibility. At the apex of this financial structure is the Bank of Canada, a government-owned institution whose chief function is to regulate the total volume of currency and credit through changes in the cash reserves of the chartered banks. To accomplish this the banks are required to maintain cash reserves of amounts that vary between 8 and 12 p.c. as determined by the Bank of Canada from time to time. Any increase of cash above the minimum encourages the banks to expand their assets (mainly by purchases of securities and the making of loans) with a similar increase in their deposit liabilities to the public; a decrease in the reserves tends to discourage expansion and may result in some contraction. Therefore, by taking steps to alter the volume of cash reserves available to the chartered banks, chiefly through open market purchases and sales of Government of Canada securities, the Bank of Canada is able to influence the total of chartered bank assets and the total of their Canadian dollar deposit liabilities. These latter totals, except for those payable to the Government, are assets of the general public and, together with currency, comprise its most liquid assets.

The Bank of Canada acts as the fiscal agent of the Government of Canada, manages the public debt and has the sole right to issue notes for circulation in Canada. It is empowered to buy and sell securities on the open market, to fix minimum rates at which it will make advances, and to buy and sell bullion and foreign exchange. The Bank is managed by a Board of Directors appointed by the Government.

The Industrial Development Bank, established in 1944, is a subsidiary of the Bank of Canada but operates as a separate entity. Its function is to supplement the activities of the chartered banks and other lending agencies by supplying the medium- and long-term capital needs of small enterprises; the bank does not engage in the business of deposit banking.

Canadian banks are permitted to transact business with the public only after receiving a charter from the Parliament of Canada issued under the provisions of the Bank Act. This legislation is stringent enough to forestall the formation of any ill-conceived venture yet it does not preclude the incorporation of any new bank that can satisfy requirements. Every ten years bank charters are subject to renewal and the Bank Act is revised to keep it abreast of changing trends, a practice unique to Canada.

The nine chartered banks of Canada are commercial and savings banks combined and they offer a complete range of banking services. Their chief

functions are to act as a safe repository for surplus funds and to serve as the principal source in Canada of short-term credit. At Dec. 31, 1957, the chartered banks were owned by a total of 84,747 shareholders of whom 65,477 were Canadians with 72 p.c. of the shares. There was a wide distribution of ownership of these shares as 90 p.c. of the shareholders held 500 shares or less, and the average holding was 250 shares.

The branch bank is perhaps the most distinctive feature of the Canadian banking system. At the end of 1957 there were 4,678 branch offices spread throughout Canada, or an average of one office for every 3,440 Canadians. This is a greater service to the public than obtained in any other nation. The challenge of competition among Canadian banks is keen and they have



The books of each bank undergo Federal Government inspection at least once a year. The team of inspectors, arriving unannounced, works quickly and efficiently with little interruption of normal operations.

opened 1,225 branches in the past ten years and 1,440 since the War. Foreign offices are maintained by most of the Canadian chartered banks in the principal money marts of the world and other offices are established in a variety of foreign cities, mainly in the United States, Great Britain, the West Indies and South America. Canadian banks also maintain a reciprocal arrangement with agents or correspondents throughout the world and this is an important aid to Canadians dealing in foreign trade or foreign exchange.

Although operating under the general supervision of a head office, a branch bank, whether in a big city or a rural hamlet, is a self-contained banking unit, providing a full range of bank service. Under the branch bank system there need be no lack of credit in a community through lack of local funds. Branches whose deposits exceed local loan potential, credit the excess funds to head office which, in turn, makes them available to branches where lending

In the oil and gas producing areas of Western Canada, bank officials trained in that particular field, serve the industry to the advantage of both the customer and the bank.



funds are needed. The branch manager has sufficient autonomy for normal occasions and behind him stand the resources, strength and experience of the institution of which his branch is a part.

The chartered banks are subject to close regulation by federal authorities, although uncontrolled in their day-to-day affairs. They are under the authority of the Minister of Finance whose link with them is as an official of his Department, the Inspector General of Banks, to whom the banks make regular reports on many phases of their operations. He is required to inspect the books of each bank at least once a year and may do so more often. This inspection is in addition to that carried out by auditors appointed by the shareholders of each bank, and to whom the auditors report. In addition, a continuous audit of the operations of each bank is carried out by the bank's own inspection staff, and each branch is usually audited once a year.

The lending field occupied by the chartered banks is essentially short-term. Banks extend credit to producers, industry, institutions, municipalities,

A steelworkers' credit union at Hamilton, Ont., operates on a payroll deduction plan. Its 7,000 members save varying amounts and may obtain unsecured loans for any number of purposes. Outstanding loans total nearly \$6,000,000 and payroll deductions amount to about \$370,000 monthly.



corporations, governments and to tens of thousands of individuals for a multitude of purposes. The banks provide the working capital rather than fixed capital—the money to meet payrolls, to buy raw materials, process them and market them, rather than the money to build a factory. Bank loans are seldom over a year in length. The latest analysis of bank loans on Sept. 30, 1957, shows total loans in Canada (excluding residential mortgage loans under the National Housing Act) of \$5,504,889,000 and, of these, \$4,155,518,000 were for agricultural, industrial and commercial purposes. Loans to individuals totalled \$769,405,000.

Statistics of the Chartered Banks of Canada, Dec. 31, 1957

Bank	Branches in Canada and Abroad ¹	Total Assets	Personal Savings Deposits	Total Deposit Liabilities	Loans and Discounts ²	Liabilities to Share- holders
	No.	\$'000	\$'000	\$'000	\$'000	\$'000
Bank of Montreal.....	727	3,061,836	1,365,158	2,832,550	1,504,025	173,532
Bank of Nova Scotia...	538	1,428,261	603,329	1,335,382	812,276	70,004
Toronto-Dominion Bank.....	489	1,453,814	708,364	1,369,152	733,583	67,003
Provincial Bank of Canada.....	347	286,977	158,416	274,228	133,992	10,284
Canadian Bank of Commerce.....	779	2,647,565	1,144,529	2,477,134	1,392,378	137,072
Royal Bank of Canada. Banque Canadienne	909	3,812,327	1,335,098	3,494,447	1,881,882	202,004
Nationale.....	588	679,277	380,825	644,191	346,459	28,755
Imperial Bank of Canada.....	298	848,729	410,177	786,061	479,370	41,850
Mercantile Bank of Canada.....	3	24,718	2,034	20,856	12,153	1,901
Totals.....	4,678	14,243,504	6,107,930	13,234,001	7,296,118	732,405

¹ Includes sub-branches and sub-agencies.
insured under the National Housing Act, 1954.

² Includes mortgages and hypothecs

In addition to the chartered banks, there are several other types of savings banks in Canada: trust and loan companies; the Post Office Savings Bank in which deposits are a direct obligation of the Government of Canada; provincial savings banks in Newfoundland, Ontario and Alberta where the depositor becomes a direct creditor of the province; two savings banks in the Province of Quebec established under federal legislation; and credit unions which are co-operative savings and loan organizations.

The credit union is by far the most important to the general population, since it is used by one Canadian in every eight. It is a self-help movement in which small savings of nearly 2,000,000 persons have resulted in assets of \$768,000,000 or an average per member of about \$400. Loans are granted for provident and productive purposes from the accumulated pooled savings of the members. They are mostly secured by personal notes, and in 1956 amounted to \$319,000,000. Unions that cannot meet the local demand for loans are able to secure additional funds from central organizations incorporated under provincial legislation. Credit unions have been organized in all provinces although membership is highest in Quebec where it exceeds 1,000,000. Ontario ranks second.



Most of Canada's commercial banks are competitive country-wide institutions that have kept ahead of the advancement in business and trade in a rapidly expanding economy, serving a spreading population in every field of its endeavour.

Large city branches are housed in new or modernized quarters and equipped to handle the requirements of their districts.

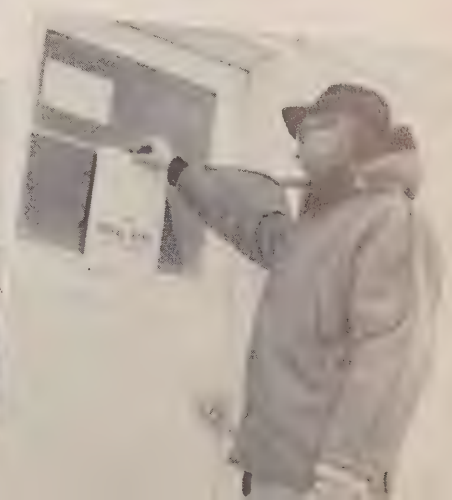


Every shopping centre has its banking facilities.



The bank in a new industrial town, which two years previously did not exist, is a beehive of activity.

The first bank in the Arctic islands was established in December of 1957 at Frobisher Bay, a community that promises to grow rapidly into one of importance.





Malak
Toronto Star Syndicate



On the youth of the country depends the future and perhaps the most important task of the adult generation is the education and enlightenment of the citizens of tomorrow. Canada has developed sound educational systems, standardized to some extent, though adaptable to regional or local needs and to varying trends of thought. But therein rests no complacency — educational problems are many and real and subject to active controversial interest.

Social Milieu

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CANADA is indeed blessed with its vast expanse of territory, its wealth in lands and forests, in lakes and rivers, in natural resources of minerals and oil and water power, and its great industrial enterprises founded thereon. But the true wealth of the nation lies in the quality and spirit of its people and the measure in which material progress is being applied with imagination to the social enrichment of the community and the welfare, livelihood and cultural advancement of the individual citizen.

Within the framework of political and economic freedom and accompanying increased productivity have come higher income, improved working and living conditions, modern housing, extended educational facilities and opportunities, marked improvement in health—a sustained high birth rate, a steadily declining death rate and a comprehensive program of social assistance designed to dispel many of the hazards of health and income security characteristic of a highly industrialized society—all contributing to a level of well-being hardly surpassed elsewhere in the world. Many of the efforts of Canadian statecraft to provide minimum standards of welfare and to reconcile the interests of various regions represent national choices of the Canadian people through their Government to preserve, at whatever cost, those things they cherish and hold in common.

Coincidental with this enhanced social and economic advancement, there has been maturing in Canada in recent years a strong national self-consciousness, based upon newly realized achievements and potentialities and expressed in the encouragement of the cultural aspects of Canadian life by agencies of the federal and provincial governments, industrial corporations, educational and cultural bodies in all branches of artistic and literary endeavour—the theatre, radio, television, the ballet, folk music, painting, the art gallery, the press and literature, the university, the critical evaluation of formal education systems, and the Canada Council's grants-in-aid of the arts, humanities and social sciences.

Education

E DUCATION is the primary occupation of a quarter of the population of Canada. There are over 3,500,000 boys and girls in the public elementary and secondary schools, another 145,000 in private schools, an estimated 50,000 taking vocational training, and close to 86,000 students at university. They are taught by more than 150,000 teachers, instructors and professors. Expenditure on education totals just under \$1,000,000,000 a year, approximately 3 p.c. of the gross national product.

Public elementary and secondary schools are administered by the departments of education of the governments of the ten provinces and the Yukon Territory. Schools for Indians and schools in the Northwest Territories are the responsibility of the Federal Government. Private schools are relatively few except in the fields of vocational training and higher education, where both public and private institutions operate.

The past five years have been notable for the attention given to education by the Canadian people. Marked increases in the numbers of pupils have created the need for more teachers, many new schools and unprecedented expenditures. At the same time there has been much critical evaluation of the school systems—at conferences, in the press, on the radio and television networks, from the public platform, and by a series of royal commissions of inquiry, both federal and provincial. A commendable amount of action has followed.

The first national conference on education concerned with education of all types and at all levels was held at Ottawa in February 1958. Sponsored by 19 national organizations in the fields of education, industry, labour and agriculture, it was attended by more than 800 delegates. Discussion covered every conceivable aspect of education and resulted in resolutions which, though not binding on participants, provided a list of challenges to education authorities and others concerned which seem certain to have a marked effect on the future of education in Canada.



In kindergarten, the five-year-old gets his introduction into the social world and the main objective in this first year is to teach him to work and play happily with other children.

Canada has about 5,442,000 boys and girls under 15 years of age, 28 p.c. more than in 1951. About 3,600,000 of them are now in school, filling to capacity the classroom facilities which must continue to increase as the 2,000,000 younger children reach school age.



Elementary and Secondary Education

Except for a small number of private institutions, enrolling less than 5 p.c. of the children in primary and secondary grades, the schools for Canadian children are under public control and are financed by taxes. Provincial departments of education administer school law, train and license teachers, determine curricula (in general outline at least), provide supervisory and inspection services, and make grants in aid of both building and operation. Local school boards are responsible for direct administration, the hiring of teachers, local adaptations of curricula, the building and equipping of schools and, through local municipal authorities, the raising of taxes for support of the program.

Customary organization of the schools provides for a kindergarten and two grade-groupings: elementary school (grades 1 to 6, 7 or 8) and high school (grades 8 or 9 to 11, 12 or 13). In some centres the high school is subdivided into a junior high school (usually grades 7 to 9) and a senior high school (usually grades 10 to 12 or 13).

During the five years 1953-54 to 1957-58, enrolment in these elementary and secondary schools rose by 29 p.c. The increase resulted from heavy immigration, a rapid rise in the numbers of children born in Canada, and a marked advance in the proportion of children remaining at school in the secondary grades. Hardly a community has been exempt from the need to expand school facilities. Despite valiant efforts to keep up with the demand for accommodation, overcrowding is common. Many schools are operating on two and some on three shifts. In many communities kindergartens which were operated in public elementary schools have had to be discontinued to provide space for pupils in the grades.

At the secondary level, new schools tend to be of the composite type, offering not only a college-preparatory course but also courses with vocational emphasis—commercial, industrial, agricultural or home economics. The increasing availability of secondary courses other than those that are strictly academic accounts to a considerable extent for the higher rate of retention of pupils which has been achieved in recent years. Another contributing factor is the further consolidation of secondary school facilities in rural areas.



At this Montreal school, deaf children are given specialized training in lip-reading and use of vocal chords but are taught regular subjects in the normal way.

Perhaps the most radical change that has taken place in public education during the past five years has been the reorganization of the secondary school system in French Catholic Quebec. Formerly, the *cours primaire élémentaire* (first to seventh years) was followed by a *cours primaire complémentaire* of two years, and then a *cours primaire supérieur* of two or three years. Completion of these 11 or 12 years of schooling did not prepare students for entry to the traditional university faculties, which could be approached only through the *collège classique*. Now the program has two main divisions: an *école élémentaire* and an *école secondaire*, the latter providing for the inclusion, in selected schools, of a classical option which is college-preparatory.

In the past five years, provincial royal commissions or select committees of the legislature have conducted inquiries into education in Nova Scotia, New Brunswick, Prince Edward Island, Quebec, Manitoba, Alberta and British Columbia. In each case much attention was paid to school finance, with attempts to provide, by equalization of the burden of support throughout the province, for a fundamental educational program in all schools.

Recent books dealing with elementary and secondary education include *So Little for the Mind*, by Hilda Neatby (Clarke, Irwin, 1953); *School Finance in Canada*, by M. E. LaZerte (Canadian School Trustees' Association, 1955); *Canadian Education Today*, edited by Joseph Katz (McGraw-Hill, 1956); *The Development of Education in Canada*, by C. E. Phillips (Gage, 1957); four recently published Quance Lectures on Canadian Education: *Curriculum Trends in Canadian Education*, by H. L. Campbell, 1953, *Public Secondary Education in Canada*, by C. E. Phillips, 1955, *Education in the Atlantic Provinces*, by G. A. Frecker, 1956, and *Educational Finance in Canada*, by H. P. Moffatt, 1957 (Gage); *Education I* (Gage, 1957); and *Interprovincial Co-operation in Education*, by F. K. Stewart (Gage, 1957). The first issue of the *Education Bulletin*, a medium for discussion of education, was published by the Faculty and College of Education, University of British Columbia, in March 1957.

Schooling for Exceptional Children.—Special provision for the education and training of exceptional children is made by provincial departments of health, welfare, justice and education, and by religious agencies and voluntary associations. There are residential institutions for the mentally defective, the deaf and dumb, and the blind. There are schools in hospitals and sanatoria.

The training of young people for vocational occupations is receiving greater emphasis. For every one person in the professions, there are 13 earning their living in other fields. Technical training at a higher level adds to the supply of technicians for industry and gives the graduate a better grounding for his life work.

There are schools and clinics for children with cerebral palsy and with orthopaedic handicaps. Much emphasis on training is to be found in reform institutions for juvenile delinquents.

Within the public school systems there are special classes for mentally retarded children, for those with defective sight, hearing and speech, and many parents' associations have been formed to promote the provision of additional facilities, both public and private. Also, a number of cautious experiments in the segregation and special schooling of mentally gifted children are being tried in the public schools, chiefly at the elementary level.

As a result of a survey conducted in 1953-54 it was estimated that about 42,000 exceptional children were, in that year, being given special educational service in schools, classes or programs specifically designed to meet their needs. Total expenditure on special education in that year was estimated at \$14,000,000.

Vocational Training

The public secondary schools of nine provinces provide vocational education in combination with academic studies for those pupils who are best suited by such a program. In addition, there are provincially operated trade schools and technical institutes outside the regular school systems. In Quebec, however, little vocational education is provided in the schools controlled by the provincial Department of Education. Instead, under the Department



of Social Welfare and Youth, there is a comprehensive network of trade and technical schools and institutes of technology. In most provinces some vocational training is provided by departments other than the department of education, notably by departments of agriculture, and there are, as well, private business colleges and trade schools registered by the province.

Canada's expanding economy has created an increasing demand for skilled manpower. Much attention, therefore, has been given recently to the development of vocational training facilities, especially at the post-secondary level for the preparation of technicians. In 1957 the federal legislation providing for financial support of vocational education in the provinces was revised to place more stress on training at the post-high-school level. In 1956 the Ontario Government made its institute of textiles at Hamilton a general institute of technology. In 1957 it opened a new institute of technology at Ottawa and announced for 1958 another new one at Windsor. During the years 1953 to 1958 the Quebec Government established a number of new trade schools.

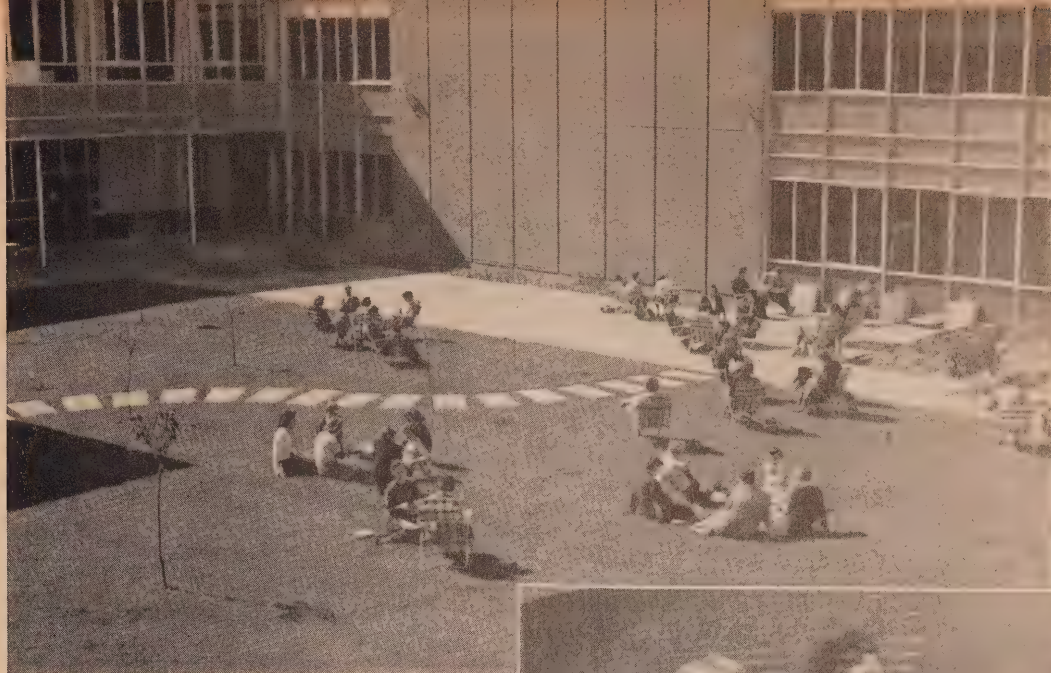
A comprehensive report on publicly operated industrial and technical training facilities in Canada was completed in 1958 by the Vocational Training Branch of the federal Department of Labour as part of the Department's program of research in the training of skilled manpower.

Training of Educational Personnel

Teachers for the elementary schools ordinarily receive one year of training after graduation from high school. This training has traditionally been given in normal schools (teachers' colleges) operated by provincial departments of education. One recent trend is toward the assumption of the responsibility for this training by the universities or the establishment of a closer relationship between the teachers' college and the university. For some years elementary school teachers have been trained by the university in Newfoundland and Alberta. Participation by the universities, in varying degrees, has come about recently in Nova Scotia, Prince Edward Island, New Brunswick, Quebec, Saskatchewan and British Columbia. Secondary school teachers have long received their training in university departments of education. Teachers of vocational subjects are usually trained in department of education summer courses although some are trained in technical institutes.

Attempts to increase the period of training for elementary school teachers from one to two years have been balked in most parts of Canada by the pressing need for larger and larger numbers of teachers. To meet this demand, half of the provinces have instituted short summer courses designed to give intending teachers a quick introduction to pedagogy and then get them into the schools. In-service training and later opportunities for full-time attendance at teachers' college are provided to enable them to complete their professional qualification. Despite such measures, the recruiting of teachers from the United Kingdom, and the fact that teachers' salaries have improved markedly in recent years, Canadian schools now are short more than 9,000 teachers. Increasing numbers of children in rural areas are served by correspondence courses because of this lack.

During the latest five-year period, Quebec raised the standard of admission to its normal schools for women preparing to teach in the French Roman



Teachers in training at Toronto occupy one of the finest educational buildings in the country. Although the number and percentage of fully qualified teachers is showing steady improvement, the fact that the number entering the profession has not kept pace with requirements keeps the level down, particularly in the smaller centres.



Catholic schools—from completion of the ninth year of schooling to completion of the eleventh. In addition it worked out, in agreement with the universities, a four-year normal school program for which a bachelor's degree in pedagogy is awarded.

For supervisory personnel throughout Canada, a most successful program of training was conducted over a five-year period ended in 1957, called the CEA-Kellogg Project in Educational Leadership. It was directed by the Canadian Education Association with financial support from the W. K. Kellogg Foundation. One result was the establishment of a program of graduate studies and research in educational administration at the University of Alberta.

Higher Education

During the academic year 1957-58 there were 290 institutions offering courses of university standard in Canada; 51 of these were active degree-granting universities and colleges to which most of the others were affiliated. There are provincial universities in all provinces except Prince Edward Island and Quebec—the former has a provincial junior college and the latter has three provincial professional schools with university affiliation. Other degree-granting institutions are church-related or independent. The Federal Government operates three military colleges, none of which grants a degree, and

there is one municipal college—a junior college opened in Lethbridge, Alberta, in 1957, in affiliation with the University of Alberta.

In the five years from 1953 to 1958, developments of interest in the university world included revision of the School Act in Alberta, providing for the establishment of public junior colleges (the one in Lethbridge is the first). Creation of the *Université de Sherbrooke* in Sherbrooke, Quebec, took place in 1954, and of the *Université de Sudbury* in Sudbury, Ontario, in 1957—both being developments of classical colleges. Waterloo College in Waterloo, Ontario, an affiliate of the University of Western Ontario, began in 1957 Canada's first college work-study program, with pairs of engineering students alternating, every three months, between lecture room and job. The demand for engineers gave rise during the period to the establishment of degree programs in several institutions which had previously offered only two years of study. A change in legislation respecting the training of lawyers in Ontario in 1957 made the Osgoode Hall Law School a degree-granting institution, gave increased recognition to the law courses at the University of Toronto and the University of Ottawa, and encouraged Queen's University to establish a faculty of law. A dramatic event of that year was the transfer of the whole faculty of forestry (staff and students) of Hungary's Sopron University to the University of British Columbia.

An industry-sponsored National Conference on Engineering, Scientific and Technical Manpower held in 1956 at St. Andrews-by-the-Sea, New Brunswick, was followed by the establishment of the Industrial Foundation on Education, a research agency with the function of promoting aid by business to education. Later in the same year the National Conference of Canadian Universities (with assistance from the Carnegie Corporation of New York) held a conference in Ottawa on the theme "Canada's Crisis in Higher Education"—a crisis spelled out in terms of anticipated increases in enrolment, in the need for teachers and plant, and in the need for funds. At this Conference the Prime Minister of Canada announced the creation of the Canada Council which came into being on Mar. 28, 1957, with two \$50,000,000 funds



An estimated 86,000 full-time students were in attendance at Canadian universities and colleges at Dec. 1, 1957, an increase of 11 p.c. over the 1956 total.

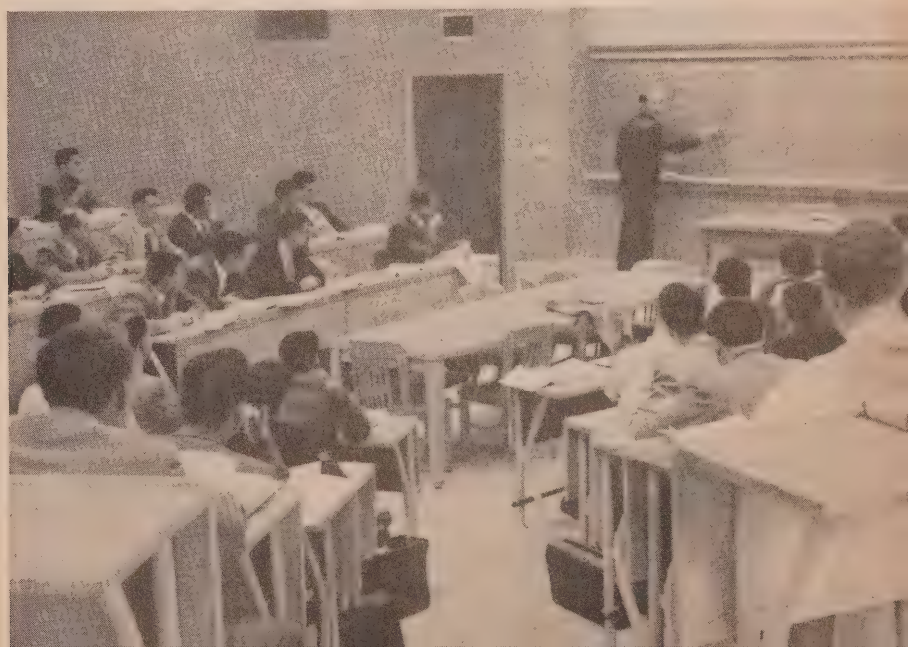
Medical students at the University of Toronto move from one class to another on the first day of the fall term.



at its disposal—one for capital assistance to universities over a period of ten years and the other to endow support of the arts, humanities and social sciences.

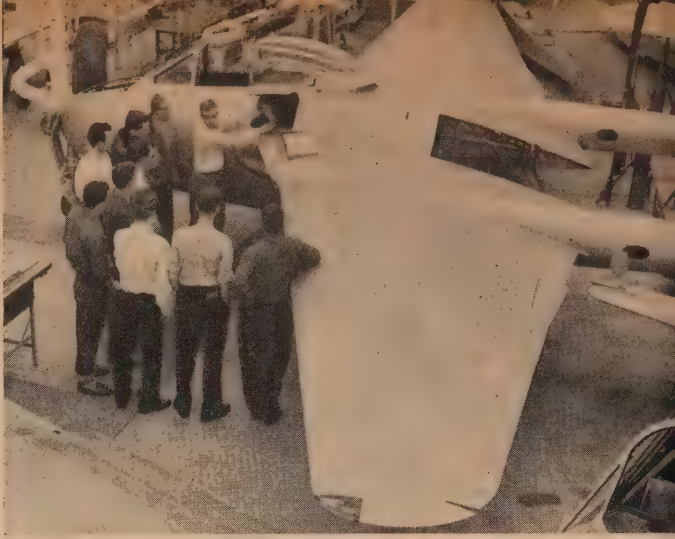
Also, during the 1956-57 academic session the Parliament of Canada doubled its allotment for university grants from 50 cents to \$1 per capita of the population and provided that they should be distributed by the National Conference of Canadian Universities. For this purpose the NCCU became incorporated, and in the autumn of 1957 it established a permanent office at Ottawa.

Meantime, the newly formed Canadian Association of University Teachers instituted a professional *Bulletin*, presented a brief to the Royal Commission on Canada's Economic Prospects, took an active part in the Conference on Canada's Crisis in Higher Education and began to make itself felt as a force in support of university professors and of higher education generally. Also, two major research studies of university matriculation were undertaken, one in Ontario by the Department of Educational Research of the Ontario College of Education, and the other in Alberta, by a sub-committee of the Joint Committee to Co-ordinate High School and University Curricula.



Class in business administration at the University of Western Ontario.

After formal schooling ends, thousands of Canadians continue their quest for new knowledge and skills to make them more efficient in their jobs or to increase their enjoyment of cultural and recreational activities. Through extra - curricular university courses and night classes in high schools, their studies range from law and economics through aeronautics, radio techniques and geology to salad and sandwich making.



Publications of note concerning higher education, issued between 1953 and 1958 include: *L'Université*, by Jean Bruchési (Les Presses Universitaires Laval, 1953); *L'Organisation et les Besoins de l'Enseignement classique dans le Québec*, the brief of the Fédération des Collèges Classiques to the Quebec Royal Commission of Inquiry on Constitutional Problems (Fides, 1954); *The University and Its Neighbors*, Quance Lecture by G. P. Gilmour (Gage, 1954); *Canada's Crisis in Higher Education*, edited by C. T. Bissell (University of Toronto Press, 1957); *The Case for Corporate Giving to Higher Education*, prepared and published by the Industrial Foundation on Education, 1957; *The Case for Increasing Student Aid*, also by the IFE, 1958; and *The University Question*, by Willson Woodside (Ryerson Press, 1958).

Adult Education

There are very few institutions in Canada devoted exclusively to adult education. It is sponsored by a variety of universities, colleges, school boards, government departments and voluntary associations, each of which has some other function which is primary. Universities have extension departments, school boards offer night classes, and provincial governments have divisions of community programs, adult education or cultural activities. The Canadian Broadcasting Corporation, the National Film Board, the National Museum, the National Gallery, and scores of provincial museums, art galleries and libraries engage in adult education as part of their work. Nevertheless there is a great and increasing volume of adult education activity throughout the land.

The chief co-ordinating and documentation agencies in this field are the Canadian Association for Adult Education and the Institut Canadien d'Éducation des Adultes. These associations continue to work closely with the Canadian Broadcasting Corporation in the production of the popular panel discussion programs, *Citizen's Forum* and *Les Idées en Marche*, both of which are offered now on television as well as on radio. Another recent venture, called the *Commission for Continuous Learning*, is a pilot project in the field of liberal education for adults. It is made possible by funds from the Fund for Adult Education and the Citizenship Branch of the federal Department of Citizenship and Immigration. Deserving mention, too, is the three-day National Conference on Labour Education held at Ottawa in 1957, at which there was fruitful discussion of ways in which the universities could co-operate in labour education.



Perhaps one of the most significant developments—taking the long view—was the inauguration in 1957 of a series of travel and study grants for adult education workers. The Fund for Adult Education has made available \$15,000 a year for that purpose.

The advent of television in Canada in 1952 opened up a whole new world of opportunity for mass education. At the same time it made necessary a review of the role of radio. The CBC has tended to be quite experimental with both media. One of its recent projects for radio, for example, was a program of eight weekly lectures on moral philosophy in what it has called the *University of the Air*. Other trends of interest include emphasis on programs of “executive development” and programs for “senior citizens”, and movements toward the organization of provincial adult education councils.



Publications concerning adult education, 1953 to 1958, included *Adult Education in the Canadian University*, by J. R. Kidd (Canadian Association for Adult Education, 1956); the two special issues of *Food for Thought*, marking 21 years of operation by the Canadian Association for Adult Education, April 1956 and May-June, 1956; *Rural Education*, Report No. 6 of the Saskatchewan Royal Commission on Agriculture and Rural Life (Queen's Printer, Regina, 1956); *A Bibliography of Canadian Writings in Adult Education*, by Murray Thomson and Diana J. Ironside (Canadian Association for Adult Education, Toronto, 1956); and *We Have With Us Tonight*, by E. A. Corbett (Ryerson, 1957).

Educational Research

Until recently there was little organized educational research in Canada except in the few universities offering graduate studies in education, administrative research carried on in a few provincial departments of education, studies conducted with the aid of a small number of small grants made

annually by the Research Council of the Canadian Education Association, and the occasional *ad hoc* projects conducted by the CEA and by the Association Canadienne des Édicateurs de Langue Française.

In 1950, however, the Jesuit Educational Research Center was established in Montreal, and in 1952 the Canadian School Trustees' Association launched a study of school finance. In the following year the Canadian Teachers' Federation appointed a research director, and shortly after its foundation in 1953 the Fédération des Collèges Classiques followed suit. In 1954 there was formed in Alberta an Advisory Committee on Educational Research which began publication, a year later, of *The Alberta Journal of Educational Research*. Also in 1954 a similar organization was created in Saskatchewan and, in 1957, one in British Columbia. In 1955 a research section was added to the Education Division of the Dominion Bureau of Statistics.

The Education Research Section of the Ontario Educational Association was reorganized in 1957. Mention has been made of the Industrial Foundation on Education which was organized in 1957. In the same year the Toronto Board of Education established a research department. In 1958 a grant by Imperial Oil Limited made possible the organization of a research service by the Canadian Education Association, and the National Conference of Canadian Universities, with the support of the Carnegie Corporation, established a research and information centre for higher education.

A National Advisory Committee on Educational Research, now representative of the Canadian Education Association, the Association Canadienne des Édicateurs de Langue Française, the Canadian Teachers' Federation and the Canadian Conference of Deans and Professors of Education, was formed in 1953 as a co-ordinating agency.

Statistics of Canadian Education, Academic Year 1954-55

Type of School	Schools	Teachers	Pupils
	No.	No.	No.
Elementary and Secondary Schools (including some vocational training).....	32,014	117,860	3,342,298
Regular public.....	30,122	109,021	2,978,988
Regular private.....	1,404	7,801	147,251
Schools for the blind and deaf.....	14	310	2,052
Indian schools.....	474	728	28,448
Evening classes (public and private).....	185,559
Universities and Colleges (excluding pre-matriculation courses).....	272	12,067	144,500¹
Full-time university grade.....	272	6,976	65,477
Other (extension, part-time, etc.).....	...	5,091	79,023 ¹
Teacher Training Institutions	143	1,385¹	14,173
Normal schools and teachers' colleges (chiefly for elementary school teachers).....	119	1,200 ¹	11,317
University faculties of education (chiefly for secondary school teachers).....	24	185 ¹	2,856
Totals²	32,405	131,127	3,498,115

¹ Estimated. ² Less duplication—figures for university faculties of education also included in those for full-time university grade.



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*Upon the heritage of the past,
We build for the future.*



Eighteen all-sky cameras at as many locations photograph the entire hemisphere of sky once a minute.



A special telescope records radio waves from the sun.



The International Geophysical Year is a comprehensive study of the earth and its mantle of oceans and atmosphere, a study undertaken co-operatively by practically all the nations of the civilized world. Canada, because of its size and location, is in a very favourable situation for many of the observations planned and is particularly active in the collection of information on Arctic and sub-Arctic phenomena.

An IGY team works with a tide gauge.



Measuring solar radiation at the David Dunlap Observatory, Toronto.



Observers count meteors during the dark hours and estimate their brightness.

Scientific Research

SPECTACULAR has been the advance of scientific research in the past year alone, when man successfully made the first step into outer space. Sensational as this achievement is, its value must be assessed not only in the lurid light of international competition for economic, political, and military superiority but also in the warm glow of supra-national collaboration: the International Geophysical Year—from July 1957 to January 1959—has become the very symbol of research integration for the benefit of all mankind.

During the IGY, more than 50 nations and upward of 5,000 scientists are obtaining simultaneous measurements all over the world, studying natural phenomena which affect climate, weather, communications, navigation, commerce, and many other aspects of daily life. In Canada, some ninety stations, ranging in importance from the Dominion Observatory to remote outposts, are collecting daily information on ocean levels, glacial changes, earth tremors, gravity, magnetism, the Northern Lights, disturbances in the upper atmosphere, cosmic rays and solar flares.

Canada was host to the Eleventh General Assembly of the International Union of Geodesy and Geophysics, held at Toronto in September 1957, a meeting that afforded the first opportunity to discuss the progress of the IGY in its entirety. The calendar of international gatherings in scientific fields shows that Canada has been selected for at least two other events of world-wide interest: the Tenth International Congress of Genetics, Aug. 20-27, 1958, and the Ninth International Botanical Congress, Aug. 19-29, 1959—both at Montreal.

These facts may serve to illustrate two points. First, Canada is very much alive to the need for sharing the obligations as well as the benefits of the scientific community of nations, and second, despite popular preoccupation with the wonders of physics, mechanics, electronics, etc., the 'life' sciences such as botany and genetics are equally active.

Industrial Research.—Meanwhile, as the foundation of Canada's economic structure is being gradually—almost imperceptibly—reinforced by *basic* research, so is *industrial* research providing the pillars of progress; an increasing proportion of expenditures of the larger industrial establishments in Canada is being allotted to research-development programs.

Investment in scientific research and development by Canadian industries during 1957 is estimated at \$100,000,000. This figure is, however, an extrapolation—rather generous perhaps—of the \$80,000,000 reported for 1956, which was based on a survey of 2,500 leading industries conducted jointly by the Dominion Bureau of Statistics and the National Research Council. Recent completion of substantial industrial research laboratories by various forward-looking companies in Canada justify the optimistic view that research spending along these lines will have increased by another 20 p.c. in 1957-58. Even at that, the research effort made by Canadian industry will still remain only half of the comparable proportion spent by industry in the United Kingdom and the United States.

However, comparison of Canadian industrial research with British or American must take into account two factors affecting Canada. One is the



The Department of National Health and Welfare works with civic authorities to determine the extent of pollution in the air above a city and its suburbs. The amount of dust in a cubic yard of air is measured at an air pollution laboratory near Toronto.

continuing reliance on facilities of parent companies outside of Canada; the other is the greater relative participation of the Federal Government in the nation's volume of non-military research.

Government Research.—In 1956-57 the Canadian Government spent about \$5.40 per capita on civil research as compared with \$4.40 per capita

spent by the United States Government and a somewhat lower amount by the United Kingdom. Total federal expenditures on research, including defence research, is about 2.5 p.c. of the national budget. Comparing this figure with the 1.5 p.c. of the budget spent on research in 1939, one can readily see that research expenditure in the federal field has more than kept pace with the general increase in government spending.

A great part of the industrial research in Canada has long been carried on by government. The National Research Council plays the leading role in scientific and engineering fields at the national level, while several provincial research councils stimulate and support research designed to assist primary and secondary industries in developing the natural resources of the provinces. A number of federal departments of government—notably Agriculture, Fisheries, Mines and Technical Surveys, National Defence, National Health and Welfare, Northern Affairs and National Resources, and Trade and Commerce—have permanent branches that carry on research in the national interest in such practical fields as soils and crops; processing and marketing of fish; silviculture and forest products; geodetic, topographical, hydrographic and geological surveys and metallurgy; military problems; food and drugs, nutrition and medical care; and the mastery of the Arctic environment. The Dominion Observatory at Ottawa and the Dominion Astrophysical Observatory at Victoria, B.C., specialize in solar physics, geophysics and astrophysics, while Atomic Energy of Canada Limited is engaged in a broad research and development program in the field of nuclear fission. The work of the National Research Council, the Defence Research Board and Atomic Energy of Canada Limited is covered briefly on pp. 253-259.

University Research.—A significant role is played by Canada's universities in both fundamental and practical research. A wide variety of studies are at present being carried out in such diverse fields of pure research as mathematics, nuclear physics, electrical communication, isotopes and therapy units. Practical research in the universities, influenced largely by the industrial and social life in the communities around them, embrace such fields as primary agriculture, industry, minerals, lands and forests, fisheries, atomic energy, health and town planning. Most of the research in the universities is financed by grants-in-aid, scholarships and fellowships from the federal and provincial governments, from foundations, industrial corporations and individual donors.

Large new science and engineering buildings were completed recently or are nearing completion on many a Canadian university campus. Modern and often costly research equipment ranges from electronic computer to atomic pile. As in most other countries, there has been a very great increase in government support for university research; since 1938-39, the *total* support from NRC and other government agencies has increased twenty-fold. Nevertheless, tremendous problems of almost unimaginable complexity—fiscal, organizational, and even constitutional—are facing Canadian universities today; these questions are not only concerned with giving adequate training to an adequate number of adequately intelligent and diligent students of science and engineering, but also with retaining at the same time, a full program in all the other fields of higher learning. For this is, indeed, the meaning of university.

For many years in Canada, medical research has been making notable contributions to the health of the nation and to medical knowledge generally through support provided by the federal and provincial governments, by private foundations or corporations, and by universities or hospitals. These have taken the form of research fellowships for training and for capital and salary expense to permit investigations in specialized fields. Most of the fundamental medical studies are carried on in medical schools.

National Research Council.—Entering its fifth decade of existence, NRC continues to have a profound effect upon Canadian research. Its first function had been to establish a system of grants and scholarships to stimulate research in universities and to assist students in financing postgraduate training. Later the "Associate Committee" mechanism was set up which has, throughout

Continuous study goes into the development and improvement of synthetic fibres. The larger industries — those with annual sales of over \$50,000,000—are responsible for most of the research expenditures by industry, but in the production of chemical goods such costs are shared more evenly by medium and lower sales groups.



the years, co-ordinated all research of a national character. NRC began its own laboratory work at Ottawa in 1925 and today operates five laboratory Divisions in the sciences, three engineering Divisions, regional laboratories at Halifax and at Saskatoon, and also operates a Division of Medical Research to award grants and fellowships in support of research in that field. In 1956-57 the Council provided \$3,500,000 to support pure research in the universities. In addition, it sponsors 26 Associate Committees operating in such diverse fields as aquatic biology, corrosion research, plant breeding, radio science and soil and snow mechanics.

Its service to industry has three objectives: to encourage industrial establishments to use the Council's laboratories just as the units of a large company use their own laboratories as sources of scientific information and assistance; to undertake, under contract, research work for any firm which has a problem that cannot be solved by private consulting and testing laboratories; and, through its Technical Information Service, to help small industries with no scientific staff which often do not realize that their problems are capable of solution and to provide them with information on the latest technical and scientific developments.

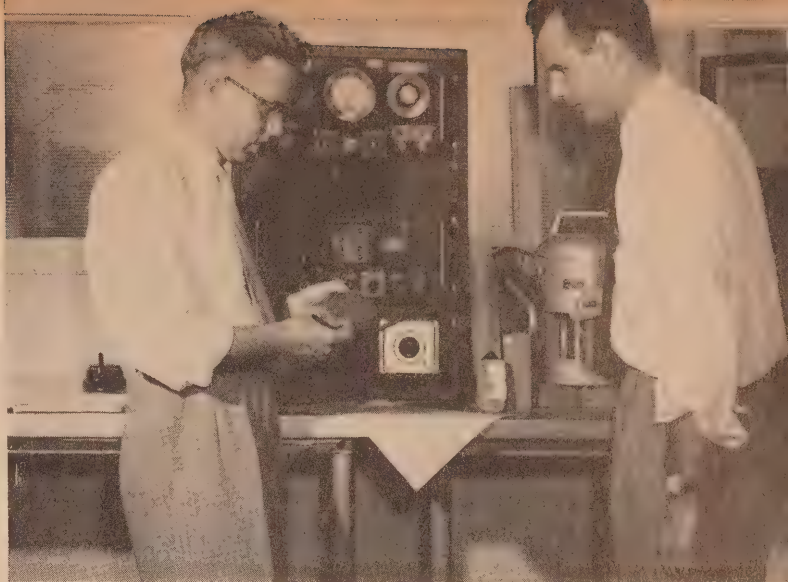
NRC staff numbers about 2,300, of whom some 550 are scientists whose average age is around 36 years. About half of these scientists hold degrees at the doctorate level and the other half degrees at the master or bachelor level; some 150 of them are also engineers. In addition, there are about 120 postdoctorate Fellows working at NRC, selected by world-wide competition. This scheme has been so successful that it has been extended, under NRC auspices, to universities and some government laboratories. The Council operates on an annual budget of about \$23,000,000 of which 5 p.c. comes from royalties and fees received for special research for industry. An Advisory Council, responsible to a committee of seven Cabinet Ministers, formulates the broad policy that governs the operation of the laboratories. Most of the Council's 21 members are drawn from the senior scientific staffs of universities; others represent labour and industry.

The NRC's laboratories are organized in nine Divisions. The current activities of the *Division of Applied Biology* range from applied studies on food storage and transportation to fundamental work on the metabolism and chemical composition of living organisms.

The *Division of Pure Chemistry*, concerned with investigations in the organic, inorganic, physical and colloid fields of chemistry, is endeavouring to discover the reasons for certain reactions and to determine the ultimate spatial structure of unknown compounds. A major function of the *Division of Applied Chemistry* is the development of chemical processes that will make better utilization of Canada's natural resources. At present, petroleum products are receiving special attention, as well as textiles and rubber.

The *Division of Pure Physics* is concerned with various fundamental problems including X-ray diffraction, cosmic rays, spectroscopy, solid state physics and theoretical physics. The International Geophysical Year, 1957-58, provides a great stimulus for this research. Of special interest in 1957 was the International Crystallography Congress at Montreal, a meeting of some 700 scientists from 28 countries. The *Division of Applied Physics* serves Canada with significant contributions to Canadian mapping methods, provision of a common dosage standard for X-radiation at cancer clinics, and a

Radioactivity in the atmosphere is determined by drawing air through a filter which is then placed in a lead 'castle' where radiation is measured with a Geiger counter.

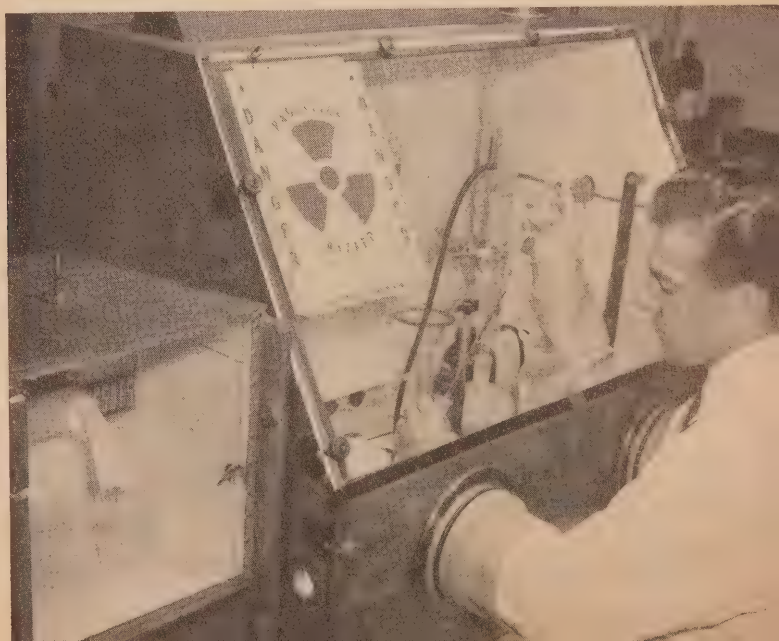


co-operative program with the Canadian Pulp and Paper Association on noise abatement in the paper industry. Studies have led to a highly precise standard of electrical resistance and important laboratory and committee work has helped re-define the International Metre in terms of wavelengths from a source of light.

The *Building Research Division*, in co-operation with the construction industry and Central Mortgage and Housing Corporation, is conducting, in a cross-country chain of research stations, an extensive program of studies in building materials, house heating, insulation, fire research, building physics, design characteristics and soil mechanics. Maintaining the secretariat for dissemination, translation, adaptation and revision of the National Building Code is one of the Division's continuing functions.

The *Mechanical Engineering Division* embraces many branches of aeronautical research, together with certain phases of hydraulic and mechanical engineering and naval architecture. The Division includes units for work on aerodynamics, engines, fuels, lubricants, structures and instruments; operates a flight research station where equipment produced in the laboratories can be tested in actual flight; functions as a research organization for the Armed

Handling radioactive materials in a dry box. Here, radioactive phosphorus was digested with nitric acid. The resulting phosphoric acid was neutralized to give a trisodium phosphate solution for use in corrosion studies on iron.



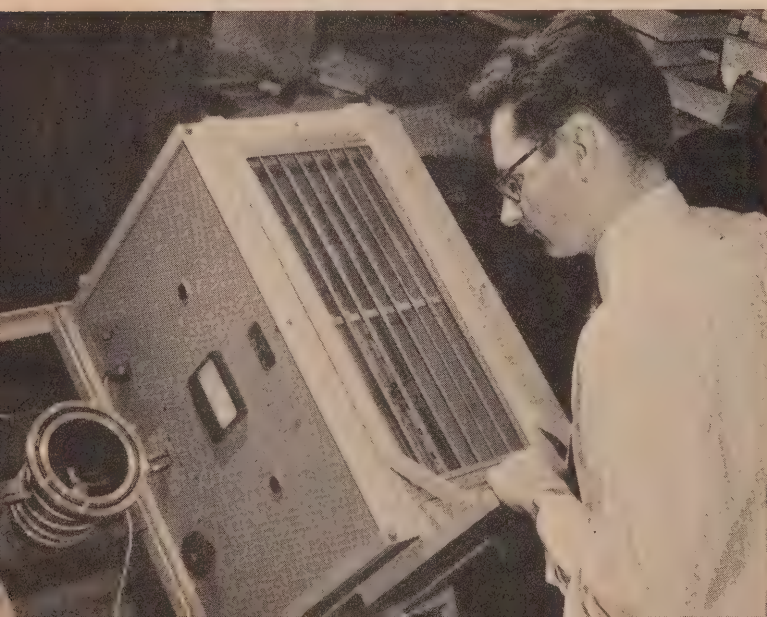
Services; and provides Canada's aviation industry with research, development and testing facilities. One of the highlights of 1957 was the meeting at Ottawa of the Commonwealth Advisory Aeronautical Research Council; this is a co-ordinating body, which greatly assists in closing gaps and eliminating overlaps of aviation research throughout the Commonwealth.

The *Radio and Electrical Engineering Division* is working on several military projects in co-operation with the Defence Research Board. Considerable basic research is also being carried on in radiophysics and in radio and electrical engineering. Subjects of civil rather than military interest include testing and development work for electrical manufacturers; electronic work associated with a program of electromedical research in progress at the University of Toronto; civil radar techniques, especially in their application to air and sea navigation and aerial survey problems; and solar noise observations, radio-frequency mass spectrometers, antenna design, electronic detection of flaws in paper, electronic music, and the observation of meteors. This Division, too, is playing an important role in IGY.

The *Medical Research Division* promotes medical research through fellowships and grants-in-aid to workers in Canadian medical schools. Many different fields of medical research are being supported, including studies relating to the central nervous system, endocrinology, properties of the blood, metabolism, and shock.

The *Atlantic Regional Laboratory* deals with such problems as storage of several varieties of potatoes, drying of rockweed, deposition of pitch from sulphite pulp mills in the Atlantic Provinces, and manufacture of iron and steel. The mode of action and the toxicity of laminarin sulphate as a blood anticoagulant for man have been compared with commercial heparin. They have been found to be very similar, if not identical. Clinical trials are now being made. Laminarin is abundant in Maritime kelps and the sulphate ester can readily be synthesized. Isinglass has been extracted from cod swim bladders and prepared in a highly purified state. It differed only slightly from similar material from mammalian connective tissues.

In addition to a variety of applied projects designed to promote and expand the use of agricultural products of the prairie region, a number of more fundamental investigations are in progress at the Prairie Regional



An induction melting and casting unit in which small samples of high purity metals may be melted and chill-cast in a vacuum or preferred atmosphere.

Laboratory. These include studies on the properties and reactions of starches, sugars, proteins, fats and oils, and other plant constituents; on the physiology and biochemistry of living plants and micro-organisms; on the development of fermentations using a wide variety of nutrients; and on the design and operation of process equipment.

The Defence Research Board.—The formulation of broad general policies for defence research and development in Canada, together with the co-ordination of the defence research program in the universities and with industry and government agencies, is the responsibility of the Defence Research Board. The Board has been functioning since 1947 under the National Defence Act and is made up of a chairman, a vice-chairman, six ex-officio members and a number of appointed members.

In addition to its Ottawa headquarters, the Board has an operational research group and eleven field research stations across Canada, as well as liaison offices in London and Washington. Its efforts are concentrated on defence problems of particular importance to Canada or on those problems for which Canada has unique resources or facilities. Existing research facilities are used wherever possible to meet the needs of the Armed Forces and new facilities have been built up only in those fields which have little or no civilian interest. All operations are co-ordinated with developments in the United Kingdom and the United States in order to eliminate any duplication of effort.

Atomic Energy of Canada Limited.—This Crown company operates Canada's atomic research establishment at Chalk River, Ont., about 130 miles northwest of Ottawa. The major research and engineering activities of the company are directed toward the development of economical atomic power, but a wide range of fundamental research in chemistry, physics and biology is also carried out.

The company is co-operating with The Hydro-Electric Power Commission of Ontario and the Canadian General Electric Co. Ltd. in the design and construction of an atomic power station near the Des Joachims hydro-electric plant on the Ottawa River. Known as NPD (Nuclear Power Demonstration), this natural uranium-heavy water plant will send 20,000 kw. of electricity into the Ontario Hydro distribution lines when it goes into operation in 1961. The NPD station will provide valuable technical data and information on the economics of this type of plant which is needed for the design of larger atomic power plants and for estimating their costs.

Preliminary design studies for atomic power stations are produced at Chalk River by the Nuclear Power Branch, which is staffed mainly by engineers assigned to this work by publicly and privately owned power companies. The branch has completed a preliminary design proposal for a large atomic power station with an electrical output of 200,000 kw. Power-producing organizations in various parts of Canada are kept informed on atomic power through such direct participation in the program and through the Advisory Committee on Atomic Power Development, a committee consisting of senior executives of the utilities.

Two new reactors went into operation at Chalk River during 1957, bringing to four the number of reactors in service at the establishment: ZEEP (100 watts), PTR (100 watts), NRX (40,000 kilowatts), and NRU (200,000

kilowatts). These are all fuelled with natural uranium and moderated with heavy water, except PTR which has enriched uranium fuel rods immersed in a pool of ordinary water.

The startup of the NRU reactor, one of the most advanced research and engineering test reactors in the world, gave Canada vastly greater facilities for atomic power development, fundamental research experiments and radioactive isotope production. In addition, this \$57,000,000 reactor produces a significant quantity of plutonium. The new machine will handle the increasing demands, not only from Canadian engineers and scientists but also from those in other countries, for greater facilities for the complex engineering test equipment used in testing fuel-coolant systems for atomic power stations. Like the famous NRX reactor, which has been used by Canada, the United States and the United Kingdom for such tests, the NRU reactor is unique among research reactors of the world in that it has a high density of neutrons over a large volume, a feature that makes possible the testing of full-scale fuel elements under power-station conditions.

The other new reactor that went into operation last year, PTR (Pool Test Reactor), likewise is directed largely toward atomic power developments, though on a different scale. The small, low-power machine is used to test the radioactivity of fuels and the neutron-absorbing properties of other materials.

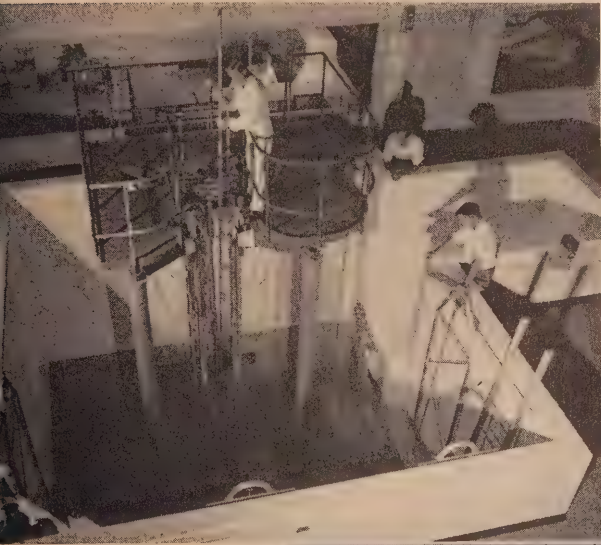
Private industry is participating in the Canadian atomic program on an increasing scale. Canadian General Electric Co. Ltd. is designing the reactor for the NPD station; Canadair Limited designed and built PTR for Chalk River and a sub-critical reactor for the University of Toronto; Canadian Westinghouse is producing engineering test apparatus to be installed in the NRU reactor; and Shawinigan Engineering Co. Ltd., is doing the modifications of the NRX reactor design for CIR (Canada-India Reactor). Many other companies are manufacturing equipment of special design for reactors and associated plants. A private firm has built a fuel rod manufacturing plant at Port Hope, Ont., and is responsible for the design and construction of the first privately owned reactor in Canada at McMaster University which will be used for research activities and to train scientists and engineers.

Work is progressing rapidly on the Canada-India reactor being built near Bombay. This is a joint enterprise in which the costs and responsibilities are being shared by the two countries. It is the first major atomic project in the field of international assistance to be undertaken by any country. The reactor portion of the plant, which will provide experimental facilities similar to those of the NRX reactor on which its design is based, is being provided by Canada under the Colombo Plan. Thirty members of the staff of India's Department of Atomic Energy spent over a year at Chalk River, studying the NRX reactor.

Canada was given a permanent seat on the Board of Governors of the International Atomic Energy Agency which came into being in 1957. The membership of this Agency consists of members of the United Nations and its specialized agencies, and of those countries approved by the Agency. The function of the Agency is "to encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world". Further international co-operation is conducted by Canada

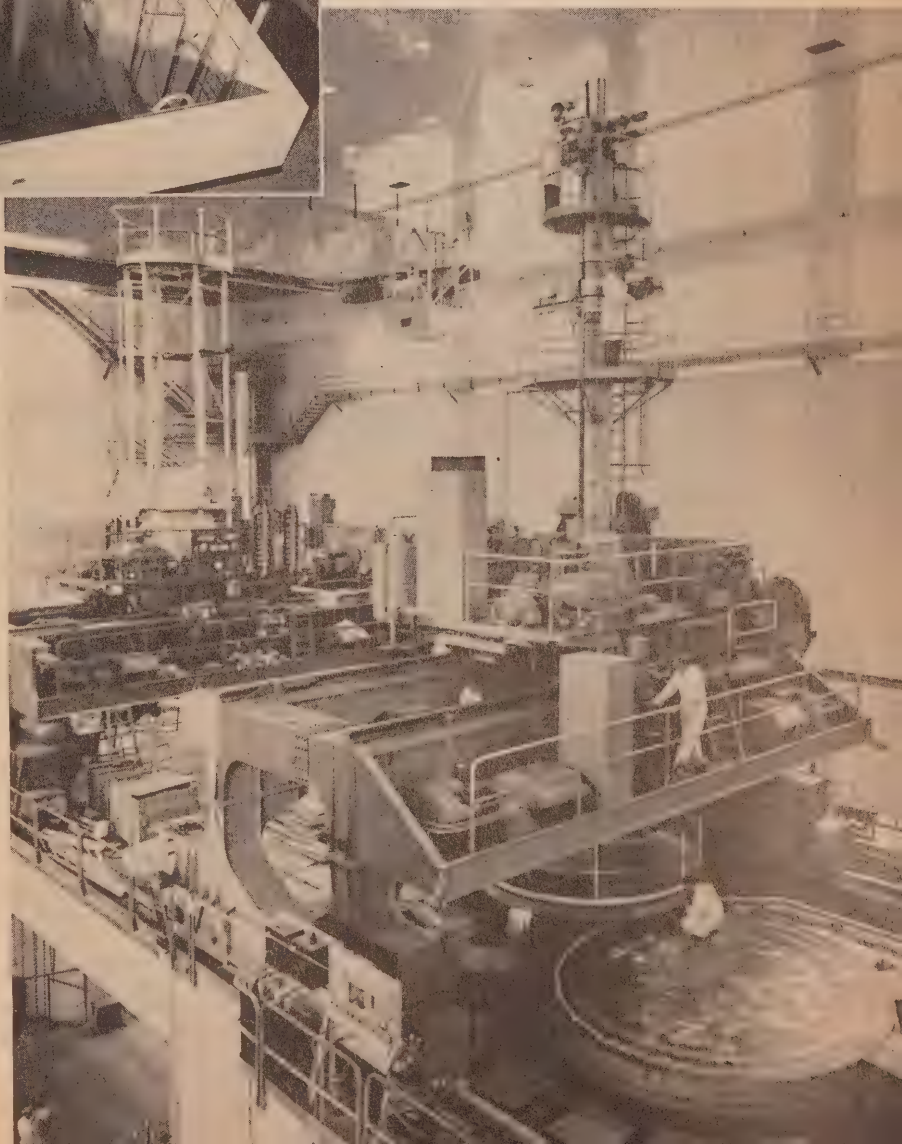
through bilateral agreements with other nations for the exchange of information, the supply of equipment and materials, and use of facilities.

Isotopes produced at Chalk River are marketed in many countries by AECL's Commercial Products Division, which has laboratories and offices at Ottawa. This division is responsible for developing new uses for isotopes and new equipment for their application. Among the latter are such items as therapy units for cancer treatment, radiography machines, and gamma irradiation units for a variety of applications. Eighty-six cancer therapy machines manufactured by the division have been installed in clinics in 16 countries.



◀ The new Pool Test Reactor at Chalk River is used to test the radioactivity of fuel samples and the neutron-absorbing properties of other materials.

▶ Canada's 200,000 kw. NRU reactor at the Chalk River establishment, about 100 miles northwest of Ottawa, began operating late in 1957. This reactor provides more extensive facilities for fundamental research and engineering tests and makes possible a greater production of radioactive isotopes. No other known reactor has such a high density of neutrons combined with such a large capacity for experimentation.





There is no aspect of human affairs that is not related to health. Public services provide safeguards and protection from certain diseases, care for the ill and assistance for the handicapped, but the responsibility for positive good health is individual.

Health and Welfare

THE progressive development of health and welfare services which has taken place in Canada during the postwar years has provided a reasonably comprehensive network of assistance against most of the economic and health hazards of today. Health and rehabilitation services have been expanded and integrated to support the work of hospitals and medical practitioners, though much remains to be accomplished before adequate facilities are available to deal with the problems of mental illness and the chronic degenerative diseases. Also there continues to be variation between provinces in the type of services provided and in their availability to different groups of the population. Active consideration is being given in all provinces to the federal proposal to assist provincial programs for hospital care and radiological and diagnostic services.

Family allowances, old age security, old age assistance, disability and blindness allowances, unemployment insurance and assistance, mothers' allowances and workmen's compensation programs constitute a bulwark against the principal threats to income security for a large number of persons.

Health in Canada

Canada has one of the world's healthiest populations; the Canadian death rate of 8.2 per 1,000 of the population, and the maternal death rate of 0.6 per 1,000 live births are among the lowest in the world. The birth rate remains high; it was 28.0 live births per 1,000 in 1956. Combined with low death rates it has given a 2-p.c. annual population growth for the past few years. Within this generally optimistic picture, in which so much progress has been made, there are, however, areas where substantial improvements may yet be effected. For example, the infant mortality rate, 32 per 1,000 live births in 1956, remains much higher than Sweden's 17 and the Netherlands' 19. Within Canada itself, rates are still generally higher in most of the eastern than in the western provinces.

The results that have been achieved in reducing death rates from communicable disease and in practically eliminating many such diseases, which in the past were so damaging to the nation's health, are well known. Less than one death in fifty was attributable to communicable disease in 1956, as against one in eight in 1926. The reduction in the death rate from tuberculosis and the decreasing numbers now requiring hospitalization for this traditionally heavy drain on the nation's human resources is most impressive. Communicable disease, however, continues to be a major cause of illness and therefore of economic loss to the community. The Canadian Sickness Survey of 1951 indicated that there had been over 1,000,000 cases of communicable disease in that year and emphasized the high incidence of 'colds' and influenza among all age groups. Some indication of the impact of the 1957 "Asian flu" epidemic is given by worker absenteeism resulting from illness, as shown in the Labour Force Survey of October 1957, when there were 100,000 more absences on account of illness than the expected seasonal norm of 60,000.

Average age at death has risen by 18 years in the past three decades and this aging of the population, while resulting in large part from the reduction in deaths from communicable disease in the younger and middle years,

has greatly increased the incidence of chronic and degenerative diseases of later life. For example, in 1956 diseases of the heart and arteries accounted for nearly one-half of all deaths, and cancer for more than one-seventh. In addition, the increasing differential in life expectancies of men and women points up new areas where further knowledge is required. Mortality rates among older males have not been reduced proportionately to those of the remainder of the population, largely because of increases in heart and allied diseases and in lung cancer among those in the 50 to 60 age group. The chronic and degenerative diseases also account for much disability; of the more than 36,000 persons receiving allowances for permanent and total disability, a high proportion suffer from one of the chronic illnesses.

Some heartening evidence of progress against the serious problem of mental illness has been achieved through the development of new therapeutic measures and the expansion of facilities for treatment. In the past two years, four provinces have for the first time been discharging more persons from mental hospitals than were admitted; in others the excess of admissions over discharges is being reduced.

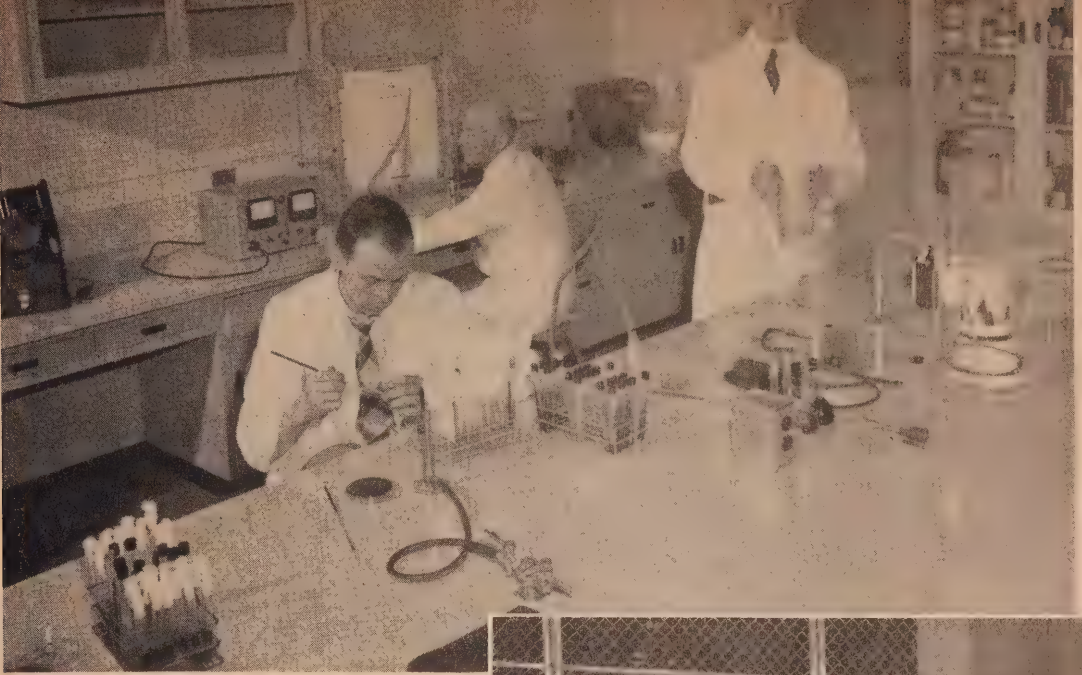
Accidents are an increasingly serious health problem; they constitute the leading cause of death in childhood and among young adult males, and rank high for other groups of the population. According to the Sickness Survey there were well over 1,500,000 serious accidents in Canada in 1951. From 1955 to 1956, deaths resulting from motor vehicle accidents alone increased 17 p.c. from 3,042 to 3,559. In 1956, workmen's compensation boards reported 1,095 fatal industrial accidents and a total of 554,771 industrial injuries.

Health Services

The scope and nature of public health services have been continually evolving since the first provincial board of health was established in Ontario in 1882 and the first provincial health department in New Brunswick in 1918. The initial acceptance of public responsibility for environmental services, inevitably expanded to include increasingly comprehensive control of communicable disease, has in turn given way to the modern concept of public health as a buttress and support to the hospitals and to medicine, the essential foundation on which all health care is built.

The public health services developed in response to this conception are a complex interweaving of local, provincial and federal effort, in which direct responsibility rests with the provincial and local governments, assisted by national and local voluntary agencies. Federal responsibility has been confined constitutionally and by tradition to special programs of a nation-wide nature and to the provision of assistance to the provinces.

Federal Services.—Federal participation in health matters is largely centred in the Department of National Health and Welfare, although important treatment programs are administered by the Department of Veterans Affairs and the Department of National Defence. The Dominion Bureau of Statistics is responsible for the compilation of health and hospital statistics, the National Research Council makes grants in support of medical research, and the Department of Agriculture has certain health responsibilities connected with food production.



In carrying out its responsibility for the safety and purity of foods and drugs placed on the Canadian market, the Department of National Health and Welfare operates five regional laboratories, two district laboratories and a central laboratory at Ottawa.

The Ottawa laboratory conducts chemical, physical and biological work necessary for investigations into new products, thus providing maximum protection for consumers against any dangers inherent in new processes or new substances. ▲

In the virus section, monkeys are used for testing the safety and effectiveness of Salk vaccine. ►



The Department of National Health and Welfare controls food and drugs including narcotics, administers quarantine and immigration medical services, carries out international health obligations, and provides health services to Indians, Eskimos, sick mariners and other groups. In addition, it provides financial assistance to the provinces for the development of health and hospital services through the National Health Program, serves in an advisory and co-ordinating capacity, and makes grants to certain voluntary agencies.

Since 1948, federal financial assistance has been provided through the National Health Program for the extension and development of provincial health and hospital services. Funds are made available for general public health, tuberculosis control, mental health, venereal disease control, cancer control, services for crippled children, professional training, public health research, hospital construction, laboratory and radiological services, medical rehabilitation and child and maternal health. During its first nine years, the Program cost the Federal Government over \$220,000,000.



Nurses and X-ray technicians working away at Port Harrison on the east coast of Hudson Bay during the annual medical survey of the North conducted by the Department of National Health and Welfare.

Provincial Services.—Provincial governments have the major share of responsibility for health planning in Canada. Most programs are administered by the provincial health department or by local health departments and units serving counties or groups of municipalities. They include activities ranging from preventive and treatment services to the operation of public health laboratories. Most provinces offer substantially free care for patients suffering from tuberculosis and for poliomyelitis, including rehabilitation, and for certain cancer patients. All provide free diagnosis and treatment to venereal disease patients and assume responsibility for mental health treatment.

Health responsibilities of the municipalities, particularly the larger ones, generally cover such public health services as environmental sanitation, communicable disease control, child, maternal and school health, public health nursing, health education and vital statistics. In some provinces, municipalities share in the costs of hospital care for, and supply medical service to, indigents. Some 163 full-time local health units or districts and 28 urban health departments maintain services available to more than 12,000,000 persons, or about 75 p.c. of the total population. Provincial and local health authorities have combined their resources in extensive mass immunization programs to assist in controlling smallpox, diphtheria, whooping cough, poliomyelitis and other diseases.

In mental health, public programs consist chiefly of treatment and custodial care of persons committed to mental institutions. Treatment, however, has been hampered by shortages of qualified staff and by lack of adequate facilities. Although some progress has been made in increasing the number of mental hospital beds and in the development of community clinics and psychiatric units in general hospitals, the provision of adequate mental health services remains a most severe problem.

Hospital facilities have expanded rapidly in the postwar period. Growth has been stimulated by the hospital construction grant under which the federal and provincial governments contribute toward the construction costs of new hospital accommodation and for the provision of specified auxiliary facilities. Beds approved for construction with the support of the federal-provincial grant from 1948 to Oct. 31, 1957, included 40,063 for active treatment patients, 6,344 for chronic and convalescent patients, 16,926 for the mentally ill, 4,355 for tuberculosis patients, 8,911 bassinets for the newborn, and 12,125 nurses' beds.

Rehabilitation Services.—Increasing recognition is being given to the social and economic problems resulting from disablement which interferes with normal living. Several approaches are being followed: the prevention and control of disease and accidents, the improvement of general health and welfare programs, and the development of specialized services to assist the handicapped to establish themselves in the community. Under a multiplicity of public and voluntary auspices a wide range of medical, educational and vocational facilities have been gradually established in hospitals, clinics, rehabilitation centres, special classes and training centres and educational institutions to restore handicapped children and adults to their maximum social effectiveness. Many of these services are directed to specific disability groups—the blind, deaf, tubercular, orthopaedically disabled and mentally ill and deficient—while others are concerned with special groups such as disabled workers, handicapped children and the aged.

Many disabled persons not previously covered by these specialized services are now being assisted through the vocational rehabilitation programs organized in nine provinces since 1956. The Federal Government provides rehabilitation services for war veterans, Indians and Eskimos, and job placement services for the handicapped and, in addition, supports the provincial and voluntary agency programs by means of financial grants and consultative services.

Hospital Statistics

In 1956, Canada had 1,357 hospitals of all types with space for 175,339 beds and cribs—10.9 places for each thousand of the population. On an average day, 159,277 or 90.8 p.c. of the beds were occupied. Hospitals are classified primarily in two ways: according to type of service provided—general hospitals, special hospitals for chronic, communicable or other specialized care, tuberculosis sanatoria and mental hospitals; and with respect to category of ownership—public hospitals under provincial, municipal, lay or religious administration, private hospitals, and federal hospitals operated for the care of war veterans, members of the Armed Forces, Indians and immigrants.

Arthritis, which severely or partially disables many thousands of Canadians and causes great distress and economic loss, is one of the major health problems receiving increasing attention. A physiotherapist of the Canadian Arthritis and Rheumatism Society brings treatment to a home-bound patient.



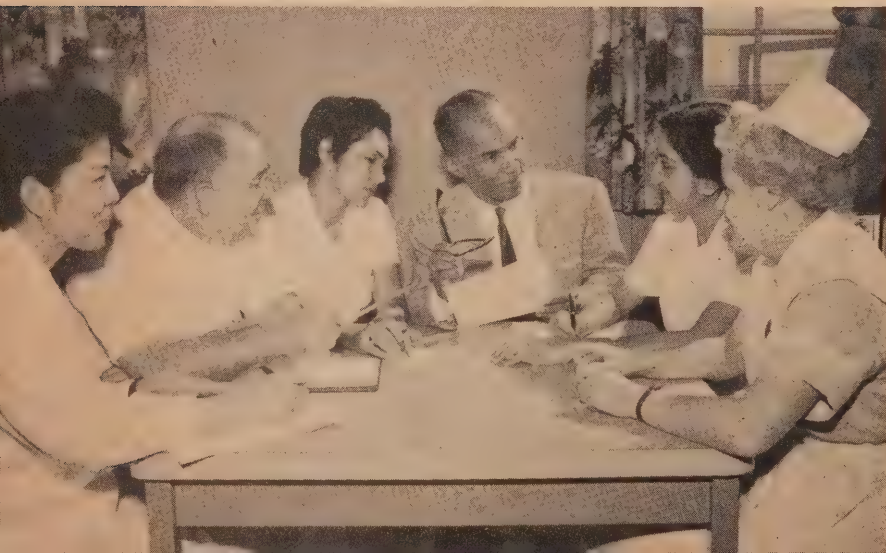
Summary Statistics of Hospitals, 1956

Item	General	Special	Mental	Tuber- culosis	Total
Public Hospitals—					
Hospitals operating.... No.	821	87	71	55	1,034
Bed capacity ¹ "	76,251	11,666	55,148	13,581	156,646
Average daily population ¹ "	59,874	9,429	63,658	11,586	144,547
Admissions..... "	2,207,866	38,772	24,523	16,903	2,288,064
Expenditure..... \$	335,728,429	23,413,104	76,326,991	31,994,842	467,463,366
Cost per patient day.... \$	15.32	6.88	3.28	7.55	8.83
Private Hospitals—					
Hospitals operating.... No.	84	179	7	1	271
Bed capacity ¹ "	1,559	3,666	654	15	5,894
Average daily population ¹ "	1,037	2,831	620	—	4,488
Admissions..... "	49,508	17,983	1,749	1	69,241
Federal Hospitals—²					
Hospitals operating.... No.	35	11	—	6	52
Bed capacity ¹ "	11,137	656	—	1,006	12,799
Average daily population ¹ "	8,870	499	—	873	10,242
Admissions..... "	78,958	1,171	—	1,438	81,567
All Hospitals—					
Hospitals operating... No.	940	277	78	62	1,357
Bed capacity ¹ "	88,947	15,988	55,802	14,602	175,339
Average daily population ¹ "	69,781	12,759	64,278	12,459	159,277
Admissions..... "	2,336,332	57,926	26,272	18,342	2,438,872

¹ Accommodation includes bassinets and patients include newborn infants. ² Excludes certain Department of National Defence hospitals outside metropolitan areas, and also non-native patients in Indian hospitals.

Public general hospitals are by far the most prevalent in Canada, accounting for 91 of every hundred hospital admissions of adults and children. If to these are added private general and federal general hospitals, the proportion is 96 of every hundred admissions. In mental hospitals, although there is only one admission for every hundred to general hospitals, the patient-stay is much longer. On an average day, the 78 mental hospitals had 64,278 patients in 1956, while the 940 general hospitals had 69,781. The number of patients at any given time exceeded bed capacity by 15.2 p.c. in mental hospitals but was less than standard capacity in other types of hospital.

Public hospitals spent almost \$468,000,000 in 1956, of which public general hospitals accounted for 71.9 p.c., public special hospitals for 5.0 p.c., public mental hospitals for 16.3 p.c., and public tuberculosis hospitals for 6.8 p.c.



A large city hospital is usually a centre of education as well as of healing, and within its walls are often found many who come from distant lands to complete their training. China, Spain, the Philippines, Jamaica, India and Canada are all represented in this discussion on administration at the Ottawa Civic Hospital.

St. Justine's Hospital for children, located in Montreal, marked its fiftieth year by the opening of a new building.



St. Justine's Hospital is also a research and nurse-training centre, financed largely by public subscription but, like other institutions of healing, assisted by substantial government grants. It can accommodate 20,000 little patients in a year and contains all the facilities that modern science requires for the treatment of childhood diseases. It is the first hospital in Canada to have a helicopter port on its roof.



Cost per patient day ranged from \$15.32 in public general hospitals to \$3.28 in public mental hospitals. Operating revenues were just under \$450,000,000. Financial information for private and federal hospitals is not available.

Health Care

In 1957, personal health care and public health services are estimated to have cost the Canadian public well over one billion dollars and, as stated previously, almost one-half of this was expended on hospital care.

Prepaid hospital care is provided through public insurance programs in British Columbia, Saskatchewan and Alberta and through a provincially operated plan in Newfoundland. Approximately 20 p.c. of the population of Canada was covered under these public hospital plans in 1956, with another 45 p.c. having some degree of coverage purchased privately. In the same year almost 41 p.c. of the population had acquired various types of insurance for payment of physicians' bills; payments by these agencies on behalf of their membership represented about one-third of all payments made to physicians. Public medical care services are also provided under a variety of arrangements: by the Federal Government to members of the Armed Forces, to veterans for service-connected disability, to sick mariners, and to Indians and Eskimos; by some provincial governments to sufferers from specific diseases such as cancer, tuberculosis, mental illness and poliomyelitis as well as, in some provinces, to public assistance recipients; and by municipalities to indigents not otherwise covered, and to residents of certain municipalities in Western Canada under municipal doctor schemes.

Federal-Provincial Hospital Insurance Plan.—During 1957 considerable progress was made toward the development of the Federal Government's proposal for a federal-provincial system of hospital service and laboratory and radiological diagnostic services. Early in 1958 Ontario became the first province to sign the agreement. Five other provinces—Alberta, British Columbia, Saskatchewan, Newfoundland and Prince Edward Island—had signified intention to accept, while the remaining provinces were actively considering the proposal.

Welfare

The welfare needs of Canadians in an increasingly industrialized society have led to a greater emphasis on social security programs, which could be developed only at the higher levels of government. Thus, during the past two decades, it is in federal and in joint federal-provincial services that the greatest expansion has taken place. At the provincial level, too, there has been a substantial broadening of services, particularly for the protection and care of children. Most provinces continue to delegate a number of welfare responsibilities to the municipalities or to voluntary agencies. General assistance or relief is usually administered at the municipal level and other programs, depending on the size, structure and traditions of the local community, may include the provision of welfare services for children, families, the aged, the ill, the transient, and those with acute housing problems.

At the same time there has been a significant development in the voluntary field. Relieved of most of the burdens of financial aid, voluntary agencies have been in a better position to develop other types of essential community services, both those that are broadly preventive and those designed to aid people in dealing with problems of adjustment and relationship in time of individual or family crisis. Services have been expanded and improved in family welfare and child welfare, including specialized institutional care for

There is no rule to measure the extent or the value of the work done by voluntary organizations, given without reservation wherever a need exists.



▲
YMCA camps provide happy days for underprivileged boys.

◀
A voluntary association gives new interest to unemployed handicapped persons in their community.



Women's Voluntary Service members care for young children while their mothers are at work. ▶



◀
These citizens, who form the board of their local hospital, devote much time and talent to its welfare.

children, social work in hospitals and clinics, programs for the aged, correctional care, rehabilitation and recreation. Community chests and federated funds in some 77 areas centralize the financial campaigns of welfare and related agencies, and welfare councils are promoting the better co-ordination and use of community resources in over 30 Canadian cities. The Canadian Welfare Council, a national association of private and public agencies, provides a means of co-operative planning and interpretation across the country and offers consultative services to agencies on request.

Federal Programs

Family Allowances.—In general, all children under 16 years of age who are resident in Canada are eligible for family allowances. These allowances do not involve a means test and are not considered as income for tax purposes. They are paid at the monthly rate of \$6 for children under 10 years of age and \$8 for children aged 10 to 15 years. In September 1957, allowances were paid in respect of about 5,670,000 children in 2,364,000 families; expenditures totalled about \$423,000,000 for the year 1957.

Old Age Security.—A pension of \$55 a month is paid by the Federal Government to all persons aged 70 or over who have been resident in Canada at least ten years. The amount is supplemented in some provinces on a means-test basis. The pension is financed through a 2-p.c. sales tax, a 2-p.c. tax on net corporation income and, subject to a limit of \$60 a year, a 2-p.c. tax on individual net taxable income, any deficit being met by loans or grants from general revenue. In July 1957, pensions were paid to 811,115 persons; expenditures were about \$420,000,000 in 1957.

Federal-Provincial Programs

Old Age Assistance.—Assistance of up to \$55 a month is paid to needy persons aged 65 to 69 years who have been resident in Canada for at least ten years. The Federal Government reimburses the province for 50 p.c. of \$55 per month or of the assistance paid, whichever is less. The province administers the program and the amount is sometimes supplemented by the province or municipality. Total annual income, including assistance, cannot exceed \$960 for a single person, \$1,620 for a married couple, or \$1,980 if a spouse is blind. In June 1957, 88,887 persons or 19.2 p.c. of the population aged 65 to 69 were in receipt of Old Age Assistance; the federal contribution toward assistance was about \$22,000,000 for the year 1957.

Blindness Allowances.—Allowances of up to \$55 a month are paid to needy persons who are blind, aged 18 or over and who have been resident in Canada for at least ten years. The Federal Government pays 75 p.c. of \$55 per month or of the allowance, whichever is less. The province administers the program and in some cases provinces or municipalities supplement the allowance. Total annual income, including the allowance, may not exceed \$1,200 for a single person, \$1,800 for a single person with one or more dependent children, \$1,980 for a married couple one of whom is blind, and \$2,100 for a married couple when both are blind. In June 1957 there were 8,225 persons in receipt of the allowance. The federal contribution towards blindness allowances was about \$3,400,000 in 1957.

Disabled Persons Allowances.—Allowances of up to \$55 a month are paid to needy persons who are totally and permanently disabled, aged 18 or over

and resident in Canada for at least ten years. The Federal Government pays 50 p.c. of \$55 per month or half the allowance, whichever is less. The province administers the program and in some cases provinces or municipalities supplement the allowance. Total annual income, including the allowance, may not exceed \$960 a year for a single person, \$1,620 for a married couple or \$1,980 where the spouse is blind. In June 1957 there were 33,114 recipients of allowances. The Federal Government's contribution was about \$9,400,000 in the year 1957.

Unemployment Assistance.—The Unemployment Assistance Act, 1956, provides for federal aid to the provinces for unemployment assistance, subject to individual agreements under the Act. The Dominion Government reimburses each participating province by one-half of the cost of assistance provided to needy persons in excess of 0.45 p.c. of the provincial population, with some adjustment for special situations. During 1957 six provinces participated in the scheme. It is expected that the 0.45 p.c. threshold will soon be eliminated.

Provincial Programs

Mothers' Allowances.—Allowances on behalf of needy mothers and their dependent children are provided by all provinces. Assistance is granted to widows, mothers with husbands in mental hospitals and, in nine provinces, to mothers who are deserted or whose husbands are disabled. Some provinces provide also for mothers with husbands in penal institutions and for divorced, separated and unmarried mothers. The maximum monthly allowance payable to a mother with one child varies by province. An additional amount is paid for each subsequent child and in some provinces for a disabled father in the home. As at Mar. 31, 1956, approximately 38,000 families with some 102,000 children were receiving mothers' allowances. The total cost of these allowances for the fiscal year 1956 was approximately \$22,322,000.

Widows' Pensions.—In Alberta, pensions of up to \$46 a month may be paid, subject to certain conditions of need and residence, to widows aged 60 to 64 and to wives in this age group whose husbands are committed to mental hospitals or have deserted.

General Assistance or Relief.—The majority of provinces reimburse the municipalities for a part of the costs of general assistance or relief, that is, of the aid provided to needy residents on the basis of a means test, the proportion ranging from 40 p.c.



Provincial or local child welfare authorities are authorized to protect the physical, social and psychological well-being of children who lack the care of their own parents.

of costs, the minimum in one province, to a flat 80 p.c. in another. In Newfoundland, the program is wholly provincial and in New Brunswick and Nova Scotia almost wholly municipal. Most of the provinces reimburse the municipalities for the cost of aid to transients and assume responsibility for needy persons resident in the unorganized territories. Federal contributions are mentioned above under Unemployment Assistance.

Child Welfare.—Child welfare legislation, including child protection, child care and adoption is administered in some provinces by the provincial child welfare authority, in others by voluntary children's aid societies to whom responsibility for administration of child welfare in all or in some areas has been delegated by the provinces, and in Quebec by a number of voluntary agencies. Services are financed by the municipality, the province and, where services are administered by voluntary agencies, partly also by voluntary contributions.

Homes for the Aged.—Homes for the aged are generally maintained by municipalities or by voluntary organizations, although there are some provincial homes. The homes are generally subject to provincial inspection. The maintenance of indigent old people in homes for the aged is primarily a municipal responsibility but most provincial governments share in the costs either through subsidies to meet the costs of operation or through grants on behalf of indigent residents. Some provinces make grants towards the construction of homes for the aged and to housing projects sponsored by local groups under the National Housing Act.

Veterans Affairs

The rehabilitation of Canada's war veterans has been, in the main, long since completed, but Canadian veterans are still eligible for various benefits to meet their continuing needs, including medical treatment, the payment of allowances, land settlement and home construction, welfare services and advanced education for the children of the war dead. Administration of these benefits is the responsibility of the Department of Veterans Affairs; the adjudication of awards and the payment of pensions is the responsibility of the Canadian Pension Commission. During 1957 payments under the Pension Act and the War Veterans Allowance Act were increased and the scope of both Acts extended.

At the end of 1957, 158,536 disability pensions were in payment to veterans and 33,581 pensions were being paid to dependants of deceased servicemen. The expenditure for these pensions for the year amounted to approximately \$148,807,000. Also at the end of 1957 there were 58,421 recipients under the War Veterans Allowance Act, of which 41,415 were veterans and therefore eligible for free medical treatment. Expenditure for these allowances during the year was \$45,187,400 and an additional \$1,122,163 was paid to recipients who qualified for grants from the Assistance Fund.

To carry out its responsibilities under the Veterans Treatment Regulations, the Department owns and operates 11 active-treatment hospitals with 8,720 beds, two health and occupational centres with 365 beds, and two domiciliary-care homes for veterans with 130 beds. The Department also has contractual arrangements with public general hospitals and other institutions for additional accommodation.



Fairview Lodge at Whitby, one of Ontario's new homes for the aged. It has been estimated that only from 2 to 5 p.c. of all elderly persons apply for permanent care in hospitals or institutions, but it is essential to have accommodation for those who need it.



Settlement of veterans as farmers, small holders and commercial fishermen still continues under the Veterans' Land Act but at a decreasing rate. At the end of 1957 a total of 74,665 veterans were receiving such assistance and about \$369,353,000 had been spent on their behalf.

Since 1954, a total of 2,854 veterans have qualified for assistance which has permitted them to build their own homes; 716 homes had been completed by the end of 1957.

Since the inception of the Children of War Dead (Education Assistance) Act in 1953, 1,096 such children were approved for advanced education, 280 of whom had completed their courses by Dec. 31, 1957, 214 had discontinued their training for one reason or another, and 600 were still on training strength.

Special efforts continued to be made in 1957 in the training and job placement of seriously disabled veterans, and in the employment of older veterans. The Department provides a welfare counselling service for veterans and their families, and advises them on services for which they might be eligible from other public and private agencies.



This street in Winnipeg is typical of new residential areas across the country. About one-third of the houses built since the War have been financed with Federal Government assistance.



High-rise and terrace houses replace slums in downtown Toronto. In the Regent Park South re-development project, 26.5 acres are being cleared of substandard buildings and, as demolition takes place, a federal-provincial housing project keeps pace. The completed project will have 733 dwelling units.

Housing

CANADA'S housing story is impressive. The country now has more than 4,100,000 dwellings, and has been building new dwellings at a rate in excess of 100,000 a year for the past few years—more than 1,100,000 since the end of the War. In 1957 there was a decline in the number of houses started, but building still continued at a high level. Lending activity was abnormally slow during the first few months of the year but recovered after March. The number of housing units started in 1957 was 122,000 as compared with 127,000 dwellings started in 1956.

About one in every three houses built since the War was financed with Federal Government assistance. The National Housing Act provides for insurance of mortgage loans made by private lenders—chartered banks, life insurance companies and other lending institutions—and sets maximum rates of interest that may be charged. By reducing the risk to the lender, it enables the borrower to get a larger loan and more favourable terms than he would otherwise be able to obtain. The National Housing Act also authorizes the Federal Government's housing agency, Central Mortgage and Housing Corporation, to make direct housing loans for such special purposes as the construction of low-rental housing and the building of rental units for primary industries. Direct loans may be made in smaller centres to homeowners who cannot get NHA loans from private lenders.

In August 1957, in view of the decline in private mortgage-lending, the Government announced that CMHC would make loans to prospective homeowners, builders and rental entrepreneurs in both small and large centres. These loans, for which \$150,000,000 was provided, were to finance the construction of homes and rental units for families of low or moderate income. In December, Parliament voted a further \$150,000,000 for this program and provided for higher loans on NHA houses generally.

Population Factors.—The rapid growth of the country's population, particularly since the end of the War, has of course placed a continuing pressure on the country's housing stock. The increase in the number of houses being built has been paralleled by an almost equivalent increase in the number of families requiring housing. The country has one of the highest birth rates in the world; the average age at which marriages take place has lowered in recent years and there has also been large-scale immigration in the postwar period. Moreover, this expansion is expected to continue and even to become more pronounced during the next quarter-century. The Royal Commission, which in 1956 investigated the economic prospects of the country, forecast that by 1980 Canada would have a population of some 26,000,000. Along with the growth in population there has been a steady shift from rural areas to towns and cities, a movement which is also expected to continue. In 1957 two out of every three Canadians lived in a town or city of more than 5,000 population while before 1920 less than half the population lived in urban centres. The Royal Commission estimated that within 25 years the urban population would double. These tendencies—continued rapid growth and greater urbanization—are setting the pattern for Canada's housing development.

Housing Stock.—Although Canada is building houses at a rapid rate, unsatisfactory conditions still exist in many parts of the country. Much of the present housing stock is old—one in every ten houses was built before 1900 and about one in nine houses in Canada today is in need of repair. Overcrowding often exists—for example, in 1951 one in ten families had no home of its own and shared accommodation with other families. It is estimated that the number of houses to be built in the next quarter-century will be about 3,400,000—or more than the number of houses existing in Canada at the end of the War.

Today's House.—Three-quarters of the houses being built today are of frame construction with the outside finished in wood siding, brick veneer, stucco or other materials. The remainder are built mainly of masonry—solid brick, stone, cement or cinder blocks. About 5 p.c. are prefabricated houses, trailers or other types. Today's house differs markedly from the house of ten to fifteen years ago. In contrast to earlier years, when the traditional house in town or country was one-and-a-half to two storeys high, eight out of ten houses now being constructed are bungalows. The average floor area of houses financed under the National Housing Act now exceeds 1,100 sq. feet, and most have three bedrooms. Also, more than 90 p.c. of them have full basements. Because of the severe winters, footings and foundations have to go down four to five feet to reach below the frost line, so that the addition of a basement does not add materially to the cost. Moreover, the basement overcomes the disadvantage of the bungalow-type house with regard to storage, and also has a potential as extra living space.

Increasing floor areas and the tendency to build one-storey houses has necessitated an increase in lot size. Serviced lots for houses built under the National Housing Act now average 6,000 to 7,000 sq. feet. The 60-foot frontage has become common in newer subdivisions, compared with the 40-foot frontage usual before the War even for good quality suburban housing. This has added to the cost of new houses. Wider spacing has also made the provision of services more expensive, since it lengthens sewer and water lines. These costs have been transmitted to the homeowner either in the form of higher municipal taxes or higher house prices.

Prices of houses, of course, vary greatly, but in the first six months of 1957 the average cost of houses bought by families borrowing under the National Housing Act was just over \$14,500, including the cost of land. The average annual income of NHA borrowers was \$5,745.

The Building Industry.—There are more than 400,000 workers directly engaged in construction and nearly one-third of these are directly engaged in building houses. Hundreds of thousands of other workers are employed in allied industries, either producing building materials or in work associated with construction activity.

Most building organizations are small in scale. In 1955 two out of every three builders produced fewer than 15 houses a year. However, the increasing use of heavy, costly equipment at the site and the greater degree of mechanization in building operations today have tended to favour the bigger builders. In 1955, for example, 5 p.c. of the builders who built under the National Housing Act were responsible for 40 p.c. of that year's NHA program.

The postwar period has seen the emergence in some of the bigger centres of large merchant builders who plan and develop whole neighbourhoods for sale. Such neighbourhoods may contain hundreds of houses and production may be planned over a period of years. Frequently the builder has subsidiary companies handling real estate transactions and is in a position to arrange not only the financing of the new house but sometimes for the sale of the old house as well.

At the present rate of construction the industry uses more than 5,000,000 bbl. of cement a year, nearly 1,500,000,000 bd. feet of lumber, 15,000 miles of electrical wiring, 2,500,000 gal. of paint and 20,000 tons of nails.

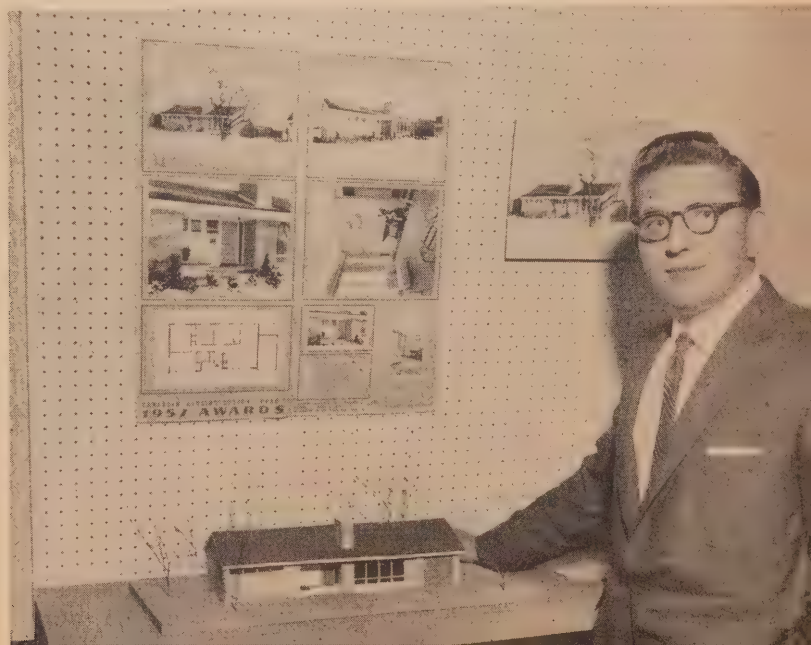
Slum Clearance.—The past two years have also witnessed the start of several large slum-clearance projects. For most projects of this kind, new low-rental housing, either on the site or elsewhere, is needed to take care of the displaced families. This is usually provided by a federal-provincial partnership, with the Federal Government contributing 75 p.c. of the cost and either the provincial government or the municipality, as its agent, contributing the balance.

In 1956-57 work was well in hand on clearing a 26-acre site at Regent Park South in Toronto, and construction of high-rise apartments and terrace housing for 734 families was under way. Work was also begun on a low-rental public housing project at Lawrence Heights, Toronto, which eventually will provide 1,081 housing units. In Montreal it is planned to provide 800 low-rental units in connection with the clearance of a 20-acre area in the heart of the city. Other cities are making re-development studies, again with Federal Government assistance.

Community Planning.—The general shift of population to the suburbs has brought an increasing awareness of the need for community planning. Municipal governments are seeking the advice of town planners and many towns and cities employ full-time professional planners.

The problems faced by growing cities are immense. For example, the opening of new residential areas and the movement of industry to outlying regions have produced conditions of blight near the core of many cities. The gradual decay of older residential districts—even in comparatively new cities—also underlines the need for constant renewal and repair of existing houses.

Prize winner of the 1957 award of the Canadian Housing Design Council competition.





Canada's labour force has increased by nearly 12 p.c. during the past five years, to reach 5,966,000 at the end of 1957. Almost one-quarter of this working group is made up of women—about half of them in clerical and service occupations and as many in professional jobs as in manufacturing and unskilled occupations.

Labour

At the turn of the present century Canada's labour force, less than two million strong, was composed mainly of farmers and farm workers, merchants and craftsmen working in small shops or on their own account. Today, close to six million men and women, ranging from general labourers to highly trained professional workers and executives and from workers on the farm to those in large manufacturing plants, provide the nation with goods and services.

The productive capacity of the Canadian economy has greatly increased during this period. New raw materials have come into use, such as oil, aluminum and titanium, making possible the production of goods not available before. Synthetic materials such as nylon and artificial rubber have become essential to everyday life, and new machines have been developed to aid the worker in producing better goods with less effort. Specialization, highly mechanized farm operations, and advancing techniques and organizational methods in manufacturing and distribution have opened up vast opportunities for bettering production and extending services. These developments, together with higher wages, better working conditions, higher educational standards and greater emphasis on vocational training, have helped to raise the standard of living for the whole community of workers.

The pace of development over the past fifty years has not, of course, been steady. It was slowed down or interrupted on several occasions. Today, however, a better understanding of the operation of the economy together with the institution of new social assistance such as unemployment insurance, workmen's compensation and old age security provides a more even flow of income and in turn helps to balance economic development.

Seasonal unemployment caused by cold weather and, to some extent, by consumer buying habits still results in serious annual loss to the Canadian economy. Some winter slow-down is unavoidable, but it has been possible by concerted effort to reduce the extent of winter unemployment. New techniques and materials have made winter construction work more practicable and the Government as well as industrial establishments now plan their programs so that as much work as possible is done during winter months.

Development in the field of labour has been assisted by legislation at both federal and provincial levels. Laws have been enacted to set minimum standards for hours of work, wages and many other conditions of employment. Most Canadian workers, however, enjoy conditions of employment far better than those required by law. The right of workers to belong to labour unions of their own choosing is protected by law and union membership has grown rapidly, particularly since 1940. Today 1,386,000 persons are members of unions. Through their organizations they have negotiated more than 7,300 collective bargaining agreements which generally embody joint labour-management decisions on wages and conditions of employment. Since 1947 there has been a steady growth in the number of collectively bargained group health insurance and pension plans. In the past two years a number of employers and unions have also negotiated unemployment benefit plans to supplement payments under the Unemployment Insurance Act. Until a few years ago collective agreements were usually re-negotiated each year, but

more recently there has been a trend toward two-year agreements with specified wage increases provided for each year. In the vast majority of cases, collective agreements are concluded without work stoppage, though sometimes with the assistance of government conciliation services. Only about one-tenth of one per cent of the estimated total working time in all Canadian industry was lost by strike action in 1956.

The Labour Force

The labour force of Canada, as measured by sample surveys conducted by the Dominion Bureau of Statistics, includes those people who have jobs plus those who do not have jobs and who are looking for work. "Job" in this sense means work for pay or profit, or unpaid work which contributes to the running of a farm or business operated by a relative. Thus a coal miner or a shopkeeper is considered to be in the labour force but a housewife or a student is not. The labour force is not a fixed group of people. It is constantly changing, as new workers enter and others leave.

Employment in Canada fluctuates with the season of the year. In 1957, the number of persons with jobs was lowest in February standing at 5,362,000, then rose to a high of 5,957,000 in August and declined again to 5,580,000 in December.

Industrial Distribution of Persons with Jobs, by Sex, Week Ended Aug. 24, 1957

(Thousands of persons 14 years of age or over)

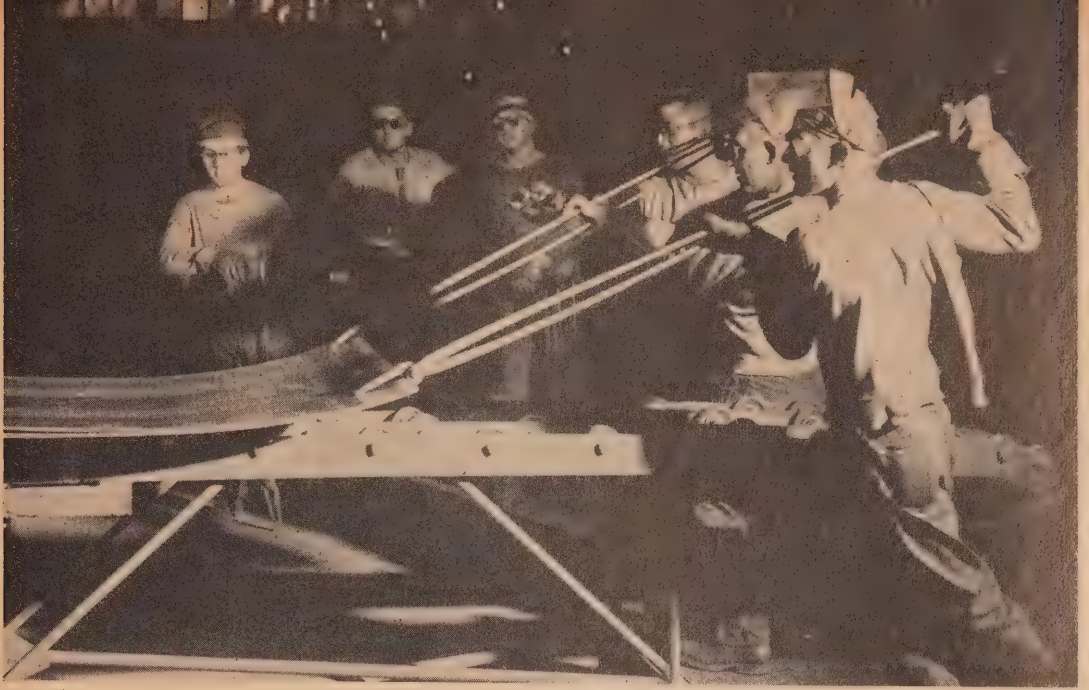
Industry	All Persons with Jobs			Paid Workers		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Agriculture.....	843	57	900	137	14	151
Forestry.....	90	1	91	77	1	78
Fishing and trapping.....	32	1	32	10	1	10
Mining and quarrying ²	111	1	115	110	1	114
Manufacturing.....	1,207	315	1,522	1,142	308	1,450
Construction.....	508	12	520	434	11	445
Transportation ³	377	68	445	347	66	413
Public utilities.....	73	1	80	73	1	80
Trade.....	613	275	888	464	232	696
Finance, insurance and real estate.	107	94	201	91	92	183
Service.....	590	573	1,163	501	526	1,027
Totals.....	4,551	1,406	5,957	3,386	1,261	4,647

¹ Fewer than 10,000.
communication.

² Includes oil wells.

³ Includes storage and com-

In the labour force (August 1957) about three out of four persons are male and almost one-half are from 25 to 44 years of age. The average female worker is younger than the average male worker. With regard to occupation, about one worker in every six is in agriculture; geographically, about two out of three live in the Provinces of Ontario and Quebec. The percentage of the labour force to the total population 14 years of age or over is lower in Newfoundland, the Maritime Provinces and British Columbia than in the remainder of the country. In non-agricultural industries, which in August



With the assistance of tongs, teams of highly skilled, agile steelworkers handle white-hot metal in sheet-rolling operations. It takes a partnership of craftsman and scientist to turn out the specialty steels required by industry today.

1957 employed 5,057,000 persons, about 88 p.c. of the men and 92 p.c. of the women are paid employees. In agriculture, on the other hand, paid employees form a relatively small element—hardly more than one worker in six, even during the harvest season.

Occupational Distribution of Persons with Jobs, by Sex, Week Ended Aug. 24, 1957

(Thousands of persons 14 years of age or over)

Occupation	All Persons with Jobs			Paid Workers		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Managerial.....	444	52	496	203	19	222
Professional.....	268	154	422	230	151	381
Clerical.....	280	432	712	279	425	704
Transportation.....	382	1	387	355	1	359
Communication.....	50	39	89	50	39	89
Commercial.....	236	161	397	232	140	372
Financial.....	50	1	55	37	1	40
Service.....	237	293	530	218	262	480
Agricultural.....	852	58	910	146	15	161
Fishing, logging and trapping....	108	1	109	77	1	78
Mining.....	65	1	65	64	1	64
Manufacturing and mechanical ² ...	829	188	1,017	799	184	983
Construction.....	383	1	385	333	1	335
Labourers and unskilled workers (not agricultural, fishing, logging or mining).....	367	16	383	363	16	379
Totals.....	4,551	1,406	5,957	3,386	1,261	4,647

¹ Fewer than 10,000.
with electric-power production.

² Includes stationary enginemen and occupations associated



Production line in a clock and watch factory. Wages and working conditions of Canadian workers are generally high and continually improving. The 40-hour week is enjoyed by 7 out of 10 persons in manufacturing employment and most of them are covered by pension and other welfare plans.

Employment in 1957

In 1957 Canada's economy operated at record levels of employment and spending, although the rapid expansion of 1955-56 had levelled off. Advancing productive capacity provided a substantial number of new jobs and labour income continued to rise, partly because of greater employment and partly because of higher wages and salaries.

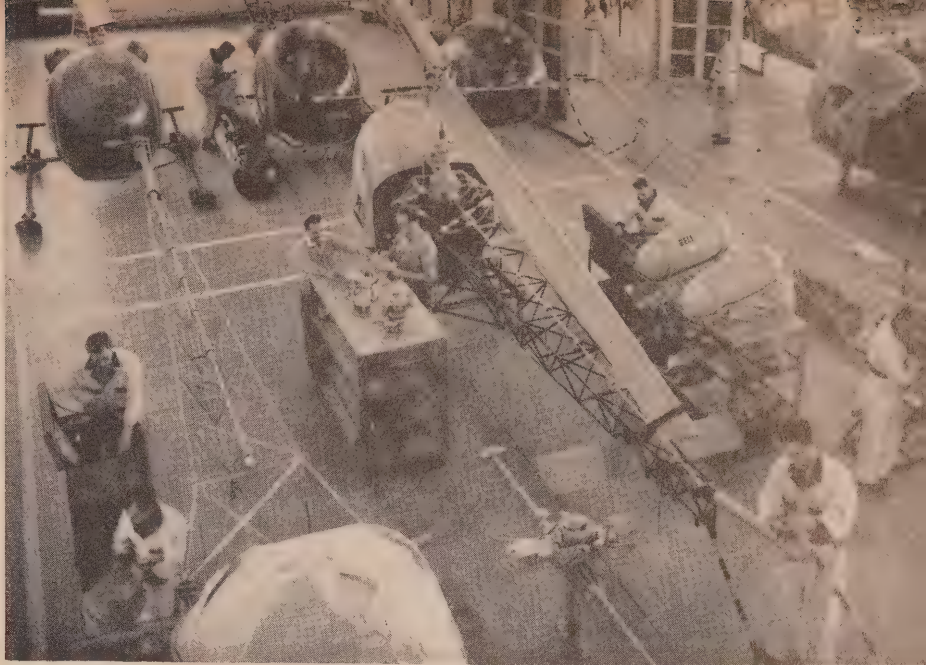
Although employment in 1957 did not increase as rapidly as in 1955 or 1956, the rise was greater than the average for the previous four years. After allowing for seasonal factors, total employment in the third quarter of 1957 was 1.5 p.c. higher than at the beginning of the year and 2.3 p.c. higher than at the beginning of 1956.

The increase in employment was accompanied by a marked expansion of Canada's labour force. In August the labour force was estimated to have increased 205,000 from a year earlier. Heavy immigration was the main factor in this record expansion of manpower resources and another factor, apart from natural population growth, was the high proportion of the population participating in the labour force. This, too, is partly attributable to large immigration since the proportion of workers among newcomers to Canada is generally a good deal higher than among the resident population, 60 p.c. of them being in the 20 - 39 age group.

In contrast with 1956, when employment increased about as much as manpower and other resources would permit, employment in 1957 expanded at a slower rate than the labour force, and consequently labour supplies began to exceed requirements in most regions. Although through the first half of the year the proportions of persons without jobs and seeking work remained lower than it had been in the same months of either 1954 or 1955, when the year drew to a close the rate of unemployment exceeded the early winter levels of other postwar years.

Employment expansion during 1957 was fairly well concentrated in those industries that provided the upsurge in economic activity during the previous year. Farm employment declined, a continuation of the long-term down-

Highly trained personnel and technical facilities combine to rebuild, overhaul and maintain RCAF, RCN and commercial helicopters. The new helicopter plant at Uplands Airport, Ottawa, offers a complete service.



ward trend that had been in evidence during most of the postwar period. The decline was not as marked as in 1956, however, partly because non-farm jobs were less plentiful. In August, total non-farm employment was about 180,000 higher than a year earlier. Manufacturing, construction and the service industries accounted for 86 p.c. of this gain.

More than 30,000 additional jobs were created in construction in 1957. In July, construction employment was over the half-million mark for the first time; by August it had reached 520,000 and the margin over the previous year increased to 8 p.c. Manufacturing employment (seasonally adjusted) showed a slight rise during most of 1957 and by the third quarter was, on the average, about 5 p.c. higher than a year before, but not all manufacturing industries shared in this gain. While employment in industries manufacturing chemicals, petroleum products and food products continued to expand, it levelled off in the large group of iron and steel products industries and contracted in others, particularly wood products, motor vehicles and rubber products.

Activity in the forest industries in 1957 was much less buoyant than in earlier years. Brought about in part by a decline in the demand for lumber, the downturn in logging had a noticeable effect by the end of the year since it reduced the number of jobs which would otherwise have been available to construction and other seasonal workers during the winter months.

As in all postwar years, employment expanded at a relatively high rate in 1957 in services, which include schools, hospitals, federal, provincial and local government agencies, theatres, law firms, barber shops, laundries, hotels, restaurants and a variety of other establishments of a similar kind. In August the number of workers employed in services stood at 1,163,000, about 45,000 more than a year earlier. Moderate employment gains were also recorded during the year in trade, finance, and the transportation and communication industry.

The general average of weekly wages and salaries was \$66.91 during the first eight months of 1957, a new high 5.3 p.c. above 1956. The construction

industry recorded an increase of 8.7 p.c. but all other industrial groups with the exception of trade and finance were also equal to or above the national average. The mining industry continued having the highest average of weekly wages and salaries—\$82.72 as compared with \$76.69 in 1956. Provincially, Newfoundland showed the greatest increase in average weekly earnings at 9.0 p.c., the other provinces recording advances ranging from 4.9 p.c. for Alberta to 7.3 p.c. for Prince Edward Island. The average number of hours worked per week in manufacturing was down from 41.1 in 1956 to 40.4 in 1957.

Index Numbers of Employment and Payrolls, and Average Weekly Wages and Salaries, by Province and Industry, 1956 and 1957

(1949=100)

NOTE.—Figures are for the period Jan. 1 to Sept. 1.

Province and Industry	Index Numbers of—						Average Weekly Wages and Salaries		
	Employment			Payrolls					
	1956	1957	P.C. Change	1956	1957	P.C. Change	1956	1957	P.C. Change
							\$	\$	
Newfoundland.....	132.7	129.0	— 2.8	199.6	209.8	+ 5.1	56.22	61.30	+ 9.0
Prince Edward Island..	115.1	112.7	— 2.1	160.3	168.6	+ 5.2	46.96	50.39	+ 7.3
Nova Scotia.....	100.6	100.4	— 0.2	141.1	149.8	+ 6.2	52.48	55.85	+ 6.4
New Brunswick.....	108.7	105.2	— 3.2	156.2	159.4	+ 2.0	54.30	57.31	+ 5.5
Quebec.....	117.3	120.7	+ 2.9	174.3	189.7	+ 8.8	60.94	64.58	+ 6.0
Ontario.....	119.1	124.3	+ 4.4	177.6	196.0	+10.4	65.97	69.80	+ 5.8
Manitoba.....	106.9	110.3	+ 3.2	151.7	164.2	+ 8.2	60.28	63.27	+ 5.0
Saskatchewan.....	117.7	123.1	+ 4.6	172.3	192.6	+11.8	60.43	64.63	+ 7.0
Alberta.....	144.2	151.2	+ 4.9	213.8	234.8	+ 9.8	65.72	68.97	+ 4.9
British Columbia.....	118.8	124.2	+ 4.5	180.3	199.2	+10.5	69.12	73.12	+ 5.8
Composite.....	118.2	122.3	+ 3.5	175.7	192.3	+ 9.4	63.53	66.91	+ 5.3
Forestry (chiefly logging).....	105.3	103.1	— 2.1	168.0	176.7	+ 5.2	63.68	68.79	+ 8.0
Mining.....	120.6	126.2	+ 4.6	180.0	203.2	+12.9	76.69	82.72	+ 7.9
Manufacturing.....	114.3	116.4	+ 1.8	172.2	184.5	+ 7.1	65.80	69.26	+ 5.3
Durable goods.....	124.7	126.9	+ 1.8	187.0	199.8	+ 6.8	70.31	73.89	+ 5.1
Non-durable goods..	105.4	107.4	+ 1.9	157.6	169.4	+ 7.5	61.21	64.57	+ 5.5
Construction.....	124.8	132.9	+ 6.5	202.9	234.1	+15.4	67.03	72.83	+ 8.7
Transportation, storage and communication..	116.2	120.0	+ 3.3	160.3	176.2	+ 9.9	66.15	70.44	+ 6.5
Public utility operation	123.9	131.5	+ 6.1	190.2	215.7	+13.4	73.04	78.02	+ 6.8
Trade.....	123.4	130.2	+ 5.5	180.7	199.7	+10.5	54.41	57.16	+ 5.1
Finance, insurance and real estate.....	135.0	143.1	+ 6.0	191.3	212.2	+10.9	59.92	62.82	+ 4.8
Service.....	123.2	131.1	+ 6.4	179.1	202.3	+13.0	42.37	45.17	+ 6.6

Labour Legislation

Under Canada's federal system of government, labour laws may be enacted either by provincial legislatures or by Parliament, depending on the nature of the employment. The field in which federal legislation applies includes such industries as navigation and shipping, interprovincial transportation systems, air transport, telegraphs, radio, banking, and operations of federal Crown companies. Most of the employment in factories, mines, construction work, commercial firms and the service industries is subject to provincial legislation.

The general principles of labour relations legislation in Canada have not been greatly changed since they were established at the end of World War II by a federal Act in the federal field of jurisdiction and by an Act in each province.

Generally, these Acts assert the right of employees to belong to trade unions and an employer is required to recognize a representative union as the bargaining agent of the employees in the unit, and to negotiate with it concerning conditions of employment. Conciliation services are made available if the parties cannot reach an agreement, and a strike or lockout is prohibited until an effort has been made to resolve the differences by negotiation and conciliation. Collective agreements are binding on the union, the individual employees and the employer. Some variations have been introduced in some of the provincial Acts. In recent years special provisions have been made for the settlement of disputes for certain classes of employees performing public services, notably teachers, policemen and firemen, where strike action to settle disputes is not consistent with the nature of the responsibilities.

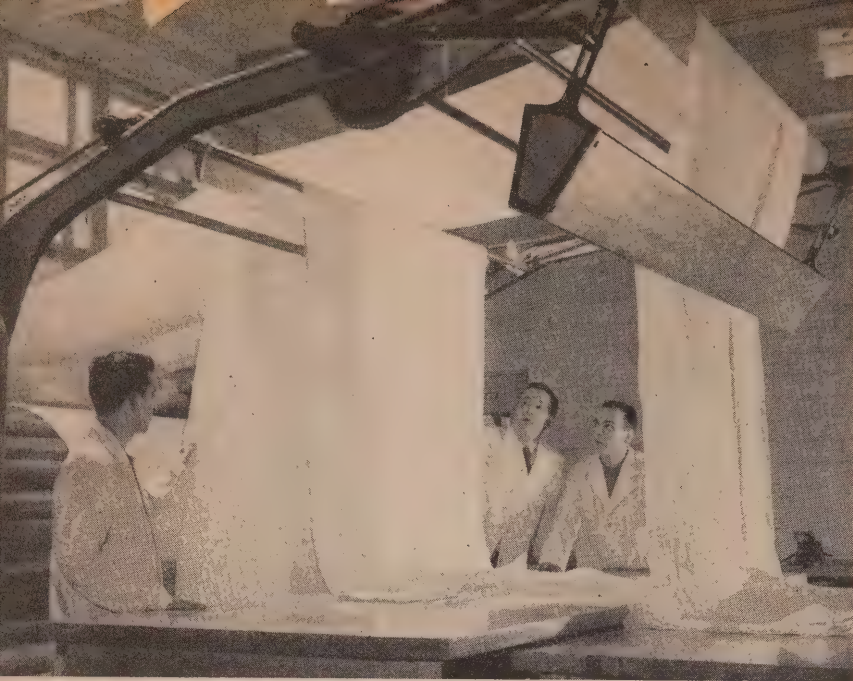
Laws which prohibit discrimination in respect to employment by an employer or a trade union on grounds of race, colour, religion or national origin are a recent development, having been enacted by six provinces and by the Federal Government since 1951.

Specific minimum standards are fairly generally established in the provincial field for the basic conditions of employment such as wage rates and hours of work. Minimum wage rates are set on the recommendation of a government board in every province except Prince Edward Island. In Saskatchewan, new rates were established in 1957, the general minimum weekly rate for both men and women in the cities and larger towns now being \$30 and in the remainder of the Province, \$29. In Manitoba, where the minimum wage orders were also revised during the year, the general hourly rate for men is 60 cents and for women, 58 cents in cities and 54 cents in rural areas. In British Columbia, where rates are fixed by industry, the minimum hourly rate for hotel and catering was set during the year at 65 cents and for office workers, 75 cents. In New Brunswick, the general hourly rate for women workers was set at 50 cents and the rate for women in hotels and restaurants at 45 cents.

Equal pay laws for men and women have been enacted by the Federal Government and by six provinces in the past six years. Five provinces have hours-of-work laws of general application. In Alberta, British Columbia and Ontario, limits of eight hours a day and 44 or 48 hours a week are imposed, while in Manitoba and Saskatchewan the laws do not limit hours absolutely but require that overtime rates be paid after specified limits. In seven provinces, minimum wages and maximum hours in some industries are regulated through industrial standards or similar laws.

Four provinces provide for a two-week vacation with pay after varying lengths of service for most workers—Saskatchewan and British Columbia after one year, Alberta after two years and Manitoba after three years. A one-week vacation with pay is required in Alberta and Manitoba for workers who have worked for one year but have not completed the requirement for a two-week vacation. In Ontario, Quebec and New Brunswick, workers are entitled to a one-week vacation with pay after a year of employment. The New Brunswick legislation on vacations applies only to the mining and construction industries.

Legislation, which may be federal, provincial and in some instances municipal, plays an important part in securing safe and healthy working conditions. In all provinces in which mining is carried on, laws designed to



Dyeing and finishing instructor in a textile school at St. Hyacinthe, Que., shows students the effect of one passage of cotton material through a napper. The production of textiles is St. Hyacinthe's principal industry.

ensure the safest possible working conditions in mines are in effect. Factories Acts set standards aimed at reducing hazards in the working environment in a large part of industry. Steam boilers must meet certain standards, and only persons who hold certificates of competency may operate them. With respect to railways, a Board established by federal legislation has authority to issue safety rules having the force of law. Safety measures for the protection of seamen are prescribed in the general federal law respecting shipping. In construction, inspection by municipal inspectors plays a significant part.

Under a workmen's compensation law in each province, a worker who is disabled by an industrial accident or a disease caused by the nature of his employment is entitled to compensation. Such compensation is based on the amount of earnings and, if the disability is permanent, upon the extent of the disability. While the worker is totally disabled, it is 75 p.c. of earnings in most provinces, subject to the provision that earnings above a specified amount (\$5,000 a year or less depending on the province) may not be taken into account. In fatal cases, widows, children or other dependants are awarded fixed monthly sums. Compensation and medical aid are payable from an accident fund to which employers are required to contribute and which provides a system of mutual insurance.

Apprenticeship laws in all provinces provide for the training of young people in designated skilled trades through a combination of on-the-job training and class instruction. Most provinces have agreements with the Federal Government for financial assistance in promoting apprenticeship. In a few provinces legislation is in effect requiring tradesmen in certain designated trades to hold certificates of competency, without which they may not engage in the trade.

Labour Organization

More than 1,386,000 men and women from Newfoundland to British Columbia are members of labour unions, an increase of 2.5 p.c. during 1957. Some 171 international and national unions are active in Canada and 115

of these unions, having nearly three-quarters of the total union membership, are affiliated with the Canadian Labour Congress. The Canadian and Catholic Confederation of Labour with some 99,000 members mostly in the Province of Quebec is the largest single group outside the Congress, but negotiations for affiliation are in progress. Three Railway Brotherhoods with a membership of 34,000 in the operating trades are also unaffiliated as well as a miscellaneous group of about 182,000 members of international, national and local organizations throughout the country.

The proportion of workers organized in the industrial groups varies widely. The manufacturing industry accounts for over 40 p.c. of the union members and approximately the same proportion of the workers employed in manufacturing are organized. The transportation industry, with perhaps the longest history of union organization, is the most highly organized with nearly three out of every four workers belonging to trade unions. On the other hand, only one worker in every twenty employed in trade and one in every five workers employed in the service industries is a union member.

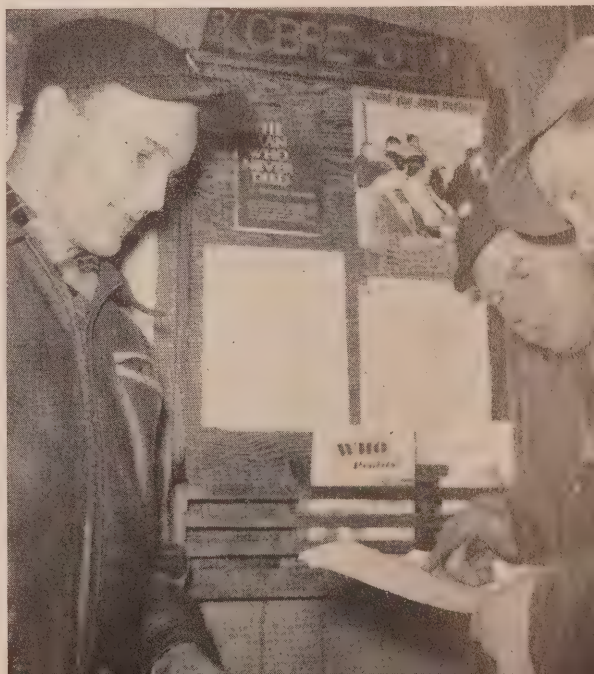
Geographically, too, there is variation. Workers in manufacturing form an important part of trade union membership in all regions of the country, though obviously more so in the Central Provinces than in the remainder of Canada. One-half of the trade union members in Ontario and Quebec are employed in manufacturing industries, while in other regions the proportion falls to somewhere between 20 p.c. and 30 p.c.

Unemployment Insurance

A contributory scheme of unemployment insurance and a nation-wide free employment service is in operation in Canada. The Unemployment Insurance Act, which became effective in July 1941, is administered by an Unemployment Insurance Commission, consisting of a Chief Commissioner and two Commissioners—one appointed after consultation with organized labour and one after consultation with employers. Regional and local officers strategically located across the country handle applications for employment and claims for unemployment insurance benefit.

All persons employed under a contract of service are insured unless specifically excepted. Exceptions include such employments as agriculture, domestic service, school teaching and those employed on other than an hourly, daily, piece or mileage basis with annual earnings exceeding \$4,800. Employment in fishing became insurable as of Apr. 1, 1957, and coverage is applicable

Employees in the transport industries are the most highly organized group in Canada—three out of every four are union members.



to all commercial fishermen whether employed under a contract of service, working on a share basis or self-employed. Persons employed on an hourly, daily, piece or milage basis are insured regardless of earnings level. Employers and insured workers contribute equally, the contributions being based on the wages or salaries earned. The Federal Government adds one-fifth of the total employer-employee contributions and pays administration costs.

Rates of Contribution and Benefit under the Unemployment Insurance Act

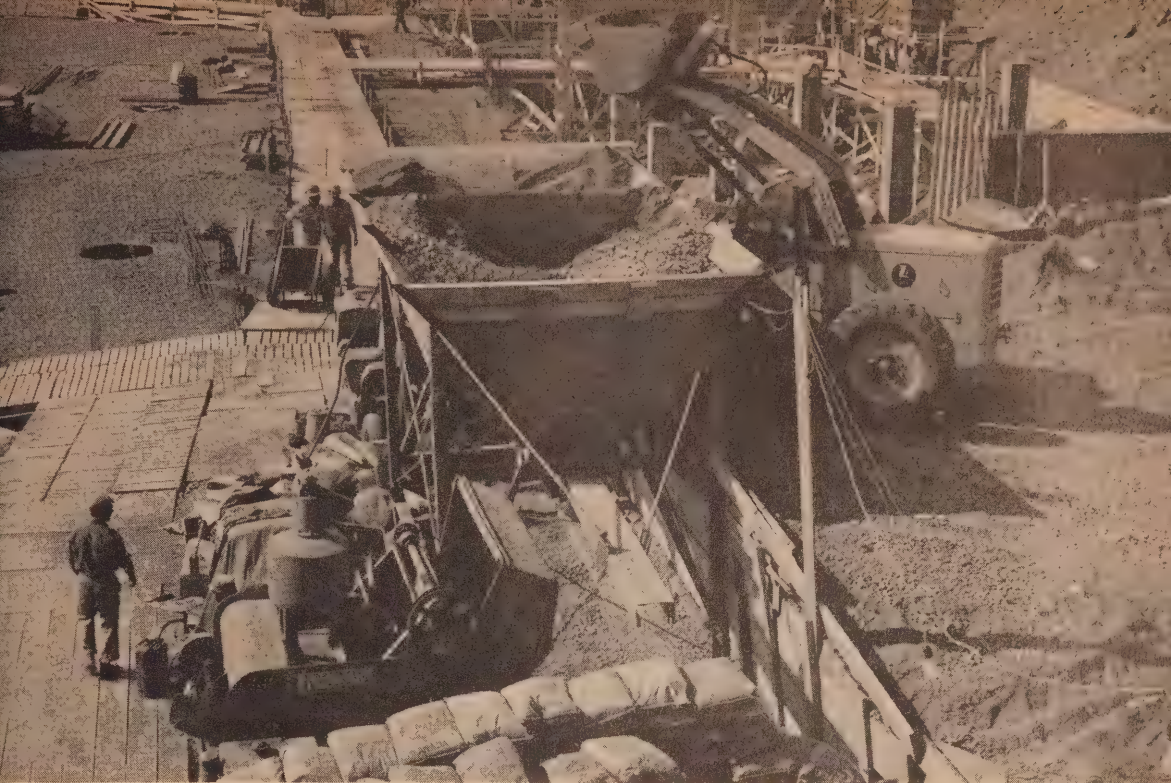
(Effective Oct. 2, 1955)

Range of Earnings	Weekly Contributions		Employee's Average Weekly Contribution	Weekly Benefit	
	Em- ployer	Em- ployee		Without Dependant	With Dependant
	cts.	cts.	cts.	\$	\$
While Earning in a Week—					
Less than \$9.00.....	08	08			
\$ 9.00 and under \$15.00..	16	16	Less than 20.....	6.00	8.00
\$15.00 and under \$21.00..	24	24	20 and under 27..	9.00	12.00
\$21.00 and under \$27.00..	30	30	27 and under 33..	11.00	15.00
\$27.00 and under \$33.00..	36	36	33 and under 39..	13.00	18.00
\$33.00 and under \$39.00..	42	42	39 and under 45..	15.00	21.00
\$39.00 and under \$45.00..	48	48	45 and under 50..	17.00	24.00
\$45.00 and under \$51.00..	52	52	50 and under 54..	19.00	26.00
\$51.00 and under \$57.00..	56	56	54 and under 58..	21.00	28.00
\$57.00 and over.....	60	60	58 to 60.....	23.00	30.00

Persons Insured under the Unemployment Insurance Act, by Industrial Group, Sex and Province, as at June 1, 1956

Industrial Group	Males	Females	Province	Males	Females
	No.	No.		No.	No.
Agriculture.....	5,750	650	Newfoundland.....	58,360	8,970
Forestry and logging..	122,450	3,020	P. E. Island.....	8,840	2,860
Fishing, hunting and trapping.....	670	30	Nova Scotia.....	104,070	28,260
Mining, quarrying and oil wells.....	100,840	3,970	New Brunswick.....	89,900	23,180
Manufacturing.....	920,680	298,250	Quebec.....	771,460	275,740
Construction.....	369,040	9,140	Ontario.....	1,042,670	435,060
Transportation, storage and communication.....	281,280	54,760	Manitoba.....	126,940	54,930
Public utility operation.....	34,260	5,510	Saskatchewan.....	73,200	26,060
Trade.....	365,670	242,410	Alberta.....	166,550	54,770
Finance, insurance and real estate.....	46,860	84,080	British Columbia....	276,420	98,090
Service.....	268,470	208,070			
Unspecified.....	23,980	8,420			
Claimants.....	178,460	89,610			
Totals.....	2,718,410	1,007,920	Totals.....	2,718,410	1,007,920

During the first six months of 1957 a total of 1,094,512 initial and renewal claims were received in local offices, 823,547 initial and renewal claimants were in the category "entitled to benefit" and benefit payments amounted to \$197,186,218. Comparable data for the same period in 1956 were 892,044 claims received, 622,056 entitlements to benefit and \$157,274,749 paid in benefit. These payments include \$28,742,644 (1957) and \$38,079,920 (1956)



The recent construction boom has, of course, meant a great increase in the number of construction workers. They numbered well over 500,000 in mid-1957 and made up more than 8 p.c. of the total labour force—figures that may be compared with 254,000 and 5 p.c. for the year 1947.

paid to claimants unable to qualify for benefit under the regular terms of the Act but who fulfilled the requirements for the receipt of benefit under the seasonal benefit regulations (operative Jan. 1 to Apr. 15); the number of such persons was 195,260 in 1957 and 231,976 in 1956.

The National Employment Service.—The Unemployment Insurance Commission operates the National Employment Service rendering service to all workers and employers in Canada through a national chain of about 200 offices. In 1956 a total of 1,046,979 vacancies were filled by the employment service. Of these, 798,407 were jobs for regular employees and 205,827 were casual placements; the number of persons for whom jobs were found in other areas was 42,745.



The National Employment Service has been of particular assistance to the many newcomers whose brawn and talents have been added to Canada's human resources.



Verdi's Requiem, conducted by Wilfrid Pelletier, was performed in Notre Dame Church during the 1957 Montreal Music and Drama Festival. Montreal is a natural artistic Mecca. Here are united two great cultural streams which had their origin in France and Britain—as they are united nowhere else in the world. Here the works of Molière and Shaw may be played under the same sponsorship, each in the language of the author, and the audience for one is the audience for the other.

Cultural Relationships

THE inauguration of the Canada Council in 1957 will be remembered as one of the notable milestones on the road to Canadian cultural maturity. The Council was created by Act of Parliament for the purpose of serving as an official national agency in the promotion of the arts, humanities and social sciences; and it was endowed with an initial capital sum of \$50,000,000 to ensure suitable independence of action. On Apr. 30, 1957, the first meeting of the Council—twenty distinguished men and women from all parts of Canada appointed for terms up to four years—was held in the Parliament Buildings at Ottawa with solemn ceremonies and in the presence of the Governor General, the Right Honourable Vincent Massey. The chairman of the Canada Council is the Honourable Brooke Claxton, prominent lawyer and businessman and former federal Cabinet Minister, and the vice-chairman is a distinguished Quebec scholar, Father G.-H. Lévesque, formerly head of the social sciences faculty of Laval University. The chief executive officer is Dr. Albert W. Trueman, formerly president of the University of New Brunswick and National Film Commissioner, and his associate is Dr. Eugène Bussière, outstanding Canadian social scientist and formerly a departmental head with UNESCO in Paris.

During its first year of activity, featured by experimentation and necessary caution in an entirely new field, the Canada Council made monetary grants to a large number of Canadian cultural organizations and launched a broad scheme of fellowships and scholarships for the benefit of individuals engaged in the arts, humanities and social sciences. Typical of the organizations benefiting were the Canadian Players of the Stratford (Canada) Theatre, le Théâtre du Nouveau Monde, The Royal Winnipeg Ballet and the National Ballet Company of Toronto; all of these received grants to help meet expenses of travel. The *Canadian Music Journal*, *Canadian Art* and *La Vie des Arts* received help to enlarge their circulations in Canada and abroad. The Dominion Drama Festival, the Vancouver Festival of the Arts, the Montreal Festivals and a dozen symphony orchestras in various parts of Canada received substantial subsidies to help them improve and enlarge their activities. The scholarship scheme offered grants of amounts up to \$4,000-plus-travel for senior scholars and artists and \$2,000-plus-travel for juniors, as well as grants to teachers, journalists, broadcasters and film-makers.



The Canada Council during its first year did not engage directly in any cultural or scholarly activities, nor did it indicate that its policy for the future would be other than encouraging existing agencies. It received consultative and administrative assistance from several of the country's most experienced voluntary agencies, notably the National Conference of Canadian Universities, the Humanities Research Council of Canada, the Canadian Social Science Research Council and the Canada Foundation.

In addition to its primary and long-term purpose, the Canada Council was given a special responsibility of administering the disposal of a sum of \$50,000,000 which Parliament made available in 1957 to assist Canadian universities finance their capital needs (on a matching-grants basis over the next five years).

The year was one of notably vigorous and successful cultural advancement throughout Canada, despite the economic recession which slowed down many activities and the political atmosphere, both domestic and international, which led to some general uneasiness and lack of stability. Theatre and music particularly enjoyed enthusiastic public support, while the development of arts festivals—in great cities and in smaller communities—was a matter of satisfaction to those concerned with the promotion of the country's cultural aspects. A notable continuation of the exchange of cultural activities between Canada and other countries was also gratifying; of considerable interest was the success attending exchanges with U.S.S.R. and some of its affiliated countries. An important invigoration of the part played by business and financial corporations in the encouragement of Canadian artists, musicians, dancers, actors, writers and sculptors was seen in the commissioning of works, the subsidizing of festivals and exhibitions and increased donations to cultural causes. This increased financial support by large corporations along with the considerable financial support being made available by the Canada Council make the outlook for Canadian cultural development brighter than ever before.

The provincial governments have been important supporters of the arts in recent years and in 1957 this type of cultural encouragement continued. In British Columbia, where centennial celebrations are occurring in 1958, generous financial backing for cultural aspects of the observances was provided by the Province. The Quebec Government's particularly generous program of financial help for the arts, to individuals and to organizations, reached a record level in 1957 while the Alberta Cultural Development Board and the Saskatchewan Arts Board were important factors in Western Canada's rapidly emerging cultural pattern. Nova Scotia's Adult Education Division and the Community Programs Branch in Ontario continued to enlarge the scope of their encouragement of all forms of artistic activity within their boundaries.

The arts have not been well supported by municipal governments in Canada, on the whole, but in 1957 some improvement was noted; some cities—particularly Vancouver, Montreal, Toronto, Winnipeg, Halifax, Edmonton and Calgary—became thoroughly involved in cultural activities. Promotion of Vancouver's Festival of the Arts received generous financial support from its City Council and Montreal advanced more than \$219,000 to its municipal Council of the Arts.

Literature

Creative writing and book publishing had a good year in 1957, and a more than usual number of Canadian authors—novelists, poets and playwrights—received notice abroad. Winners of the Governor General's Awards for Canadian Literature were: Adele Wiseman (fiction) with *The Sacrifice*; Pierre Berton (creative non-fiction) with *The Mysterious North*; Joseph L. Rutledge (academic non-fiction) with *Century of Conflict*; Robert A. D. Ford (poetry) with *A Window on the North* and Farley Mowat (juvenile) with *Lost in the Barrens*. It seemed to be widely agreed that this was one of the most satisfactory lists of winners of the top Canadian literary awards in some years. Miss Wiseman's novel was successfully published in London and New York, as well as in Toronto, and received uniformly good criticism. In a year of considerable production by Canadian novelists, the following were outstanding: *Under the Ribs of Death*, by John Marlyn; *The Feast of Lupercal*, by Brian Moore; *Street of Riches: Rue Deschambault*, by Gabrielle Roy; *Le Prix du Souvenir*, by Jean Marie Poirier and *Mon Fils Pourtant Heureux*, by Jean Simard. At least three new volumes of poetry were well received: *The Boatman*, by Jay Macpherson; *The Carnal and the Crane*, by Daryl Hine and *The Blasted Pine*, edited by F. R. Scott and A. J. M. Smith. Wilfred Eggleston's *The Frontier and Canadian Letters* and Bruce Hutchison's *Canada: Tomorrow's Giant* were notable among 1957 non-fiction works. Winners of the Canada Foundation's awards for creative writing for 1957 were: Adele Wiseman, Irving Layton, Anne Hébert and Norman Williams. *Tamarack*, the new quarterly literary review launched a year ago, provided four welcome 1957 issues of incisive criticism, bright poetry and short stories and *Écrit*, a French-language newcomer in literary journalism, offered some of the year's best writing. *The Canadian Forum*, *Queen's Quarterly*, *Culture*, *Dalhousie Review*, *Vie des Arts*, *Canadian Poetry* and *Fiddlehead*, leaders among the Canadian "small magazines", provided an important and satisfying outlet for much of Canada's briefer creative writing in 1957.

Theatre

Some of 1957's most interesting cultural events occurred in the world of the theatre, with top billing going to the opening of the new and world-renowned

Paul Buissonneau, actor, director and playwright, devotes his skills and time to training young theatre aspirants of Montreal in playgrounds and parks and drama workshops. His company, Le Théâtre de Quat'Sous, many of whom were performing for the first time, won the 1957 Dominion Drama Festival.



theatre at Stratford, Ontario. On July 1, Canada's ninetieth birthday, the \$1,750,000 successor to the great tent in which the Stratford Shakespearean Players had built up a notable reputation in four years was opened in the presence of an international galaxy of celebrities. A brilliant performance of *Hamlet*, with Christopher Plummer in the star role and Frances Hyland as Ophelia, gave the new structure its christening, and opened a season which proved to be an outstanding artistic and box-office (\$76,349 net profit) success. The second play of the season was *Twelfth Night*, starring the great Irish actress Siobhan McKenna. The new Stratford theatre, which preserves the outward general appearance of the original tent home of the company, seats 2,176. It is a pillarless auditorium with a 220-degree viewing circle facing a raised open stage. A large foyer, 18 dressing rooms, a wardrobe-room designed to store many thousands of costumes, a rehearsal loft, basement assembly hall and a fully equipped press room are notable features of the new structure. The Canadian Players, an offshoot of the Stratford Shakespearean Festival, gained fresh laurels in 1957 when the company, organized in two troupes, played a successful road tour of 74 cities and towns in Canada and 61 in the United States. The companies offered Shakespeare, Shaw and Ibsen and grossed more than \$165,000. In December 1957 the Stratford Festival management announced a twelve-week season for the following summer, to include productions of *Henry IV, Part I*, *Much Ado about Nothing* and *The Winter's Tale*.

In Edmonton's new \$5,000,000 civic auditorium, the 1957 Dominion Drama Festival saw top honours go to the French-language farce *La Tour Eiffel Qui Tue*, presented by Montreal's Four-Penny Theatre. Runner-up for honours and awards was the Toronto Playcraftsmen's production of *On Borrowed Time*. Adjudicator for the festival was the British director and playwright, Robert Speaight.

Of notable interest and excitement was the announcement in May 1957 of the establishment of Canada's first national theatre group dedicated



The Stratford Shakespearean Festival opened its 1957 season in a new building. The familiar canvas tent which had served for four seasons was gone and in its place stood a permanent theatre, modern in design but devoted to the principles of Shakespearean staging.

The Stratford Shakespearean Festival is clearly the dominant force in Canadian theatre today and the actors who have played at Stratford have become the aristocracy of their profession.

Scene from "Hamlet", one of the 1957 Festival productions.



Television, too, has given impetus to professionalism. Radio launched the Canadian professional actor, but television has given him a recognizing audience and a better salary.



"My Fur Lady", a high-spirited satire on the Canadian way of life, started as a McGill University student-group production and continued to become one of the most successful professional productions of the 1956-57 season.

The Holiday Children's Theatre of Vancouver opened its 6,000-mile tour of British Columbia with "Aladdin and His Wonderful Lamp".

primarily to the production of works of Canadian playwrights. Organized and directed by the successful author-actor-producer Gratien Gélinas (Ti-coq) and substantially financed by the Government of Quebec and private business

interests, the new venture is to be fully professional and bilingual. Known as Le Théâtre de la Comédie Canadienne, the company is home-based in a Montreal theatre purchased for it (at \$250,000) by an industrial corporation. Plans call for exchange performances in co-operation with theatrical groups in Toronto and other cities. This new development, together with the activities of several smaller play companies and the opportunities for dramatic performance on the Canadian Broadcasting Corporation's French-language television network, ensures the rapid growth of Montreal as a leading theatrical centre of North America. Other Montreal developments of 1957 were the acquiring of a new permanent home by the old-established Montreal Repertory Theatre and the opening of the new downtown Studio and Drama Club with an auditorium of 200 seats.

Vancouver's Theatre Under the Stars enjoyed its eighteenth successful and satisfying season, with eight weeks of *The Student Prince*, *Kiss Me Kate*, *Where's Charley* and *The Pajama Game*. The Crest Theatre in Toronto continued to provide top-rate professional fare on a full season repertory basis, but failed to make ends meet financially. In an effort to bolster its financial position and continue theatre service to the community, the company surrendered its original charter and became a voluntary, non-profit organization without share capital. In Ottawa the Little Theatre, in its forty-fourth year of continuous operation, offered a double full season of three-act plays, light and classical, achieved its biggest subscription membership on record and played to sell-out houses. Throughout Canada the well-established Little Theatre movement enjoyed a very successful year. Summer-stock companies did well again in 1957 in most parts of Canada.

Television drama originating in Canadian studios is rapidly becoming an important area of theatrical livelihood in Canada, particularly in Toronto and Montreal where the major Canadian network headquarters are located; and TV playwrights, producers, directors, designers and actors are becoming a well established and financially successful factor in the cultural picture.

Ballet

During the past decade the interest in ballet has shown phenomenal growth throughout Canada and today the art has its enthusiastic audiences in every city and town and in many smaller communities. Interest is engendered by visits of foreign ballet companies, by frequent performances on television screens and by the independent surging popularity of long-play recordings of ballet music. Canada's two fully professional companies, the Royal Winnipeg Ballet and the National Ballet Company of Toronto, were newsworthy throughout 1957, usually for reasons of dwindling financial resources and increasing costs; notwithstanding the fact that both organizations received substantial windfalls from the new Canada Council. The Toronto company, however, enjoyed notable box-office successes in an extended season in its home city and on road trips to many Canadian cities and about fifty centres in the United States. At the famed Jacob's Pillow Festival in Massachusetts, the troupe produced finished works which won high praise from the critics. In November it was announced that the National Ballet Company had been contracted for a three-week engagement at the Palace of Fine Arts in Mexico City for June 1958. The Royal Winnipeg company, still recovering from the effects of a disastrous fire several years ago, continued to rebuild a per-

Three hundred young ballet aspirants converged in Toronto in 1957 for the renowned six-week course of the National Ballet summer school. They came from many points across Canada, from the United States and Europe, and even from as far off as Australia.



manent corps-de-ballet. Personality difficulties and the resultant coming and going of key training and management personnel seemed to have slowed down the company's progress during the year. Ballet of high quality featured both the Montreal Festivals and the University of British Columbia's summer school.

Visual Arts

Canadian interest in the visual arts, on the upgrade since the end of World War II, showed no diminishment during 1957. The National Gallery of Canada, forging ahead in the past three years under its new Director, Alan Jarvis, found itself in the middle of several lively controversies. The question of how much money should be spent for the acquisition of European old masters became a hot issue in Parliament when the Gallery's estimates were under consideration. When the works of twenty-three contemporary Canadian artists were selected for the Canadian exhibition at the 1958 World Fair at Brussels, rage and scorn was expressed by a hastily organized group of



The National Ballet, in its seventh season, has the reputation of being one of the Continent's top touring attractions. His Excellency the Rt. Hon. Vincent Massey, Governor General of Canada, chats backstage after a performance at Ottawa.



A large industrial organization displays pictures painted by its members. Amateur painting is becoming almost a national pastime in Canada. Art classes are numerous and crowded and people of all ages and in all walks of life are finding pleasure and relaxation in expressing themselves on canvas.

painters who did not approve of the "farcical modernity" of the selections; and the National Gallery, which had nothing to do with making the selections, became the target for the criticism of the unhappy painters and the lively group of art lovers who agreed with them. Most people regarded these incidents as a healthy sign of public interest in the arts. Meeting with full public approval, however, was the National Gallery's vigorous program of bringing distinguished collections of foreign paintings to Canadian galleries, arranging for the exhibition of more Canadian shows abroad, public lectures by noted art authorities and greatly improved production of catalogues, reports and other printed matter. A start was made on the new National Gallery temporary-permanent building in Ottawa and it seemed clear that by 1959 the institution would, for the first time in its existence, have adequate, modern, convenient quarters. An important conference was held in December at Kingston, Ont., under the auspices of the Canada Council, when a group of

experts in the visual arts—painters, sculptors, critics, curators, teachers and patrons—met for several days to discuss matters of common concern.

During the year, patronage of the arts by industry was particularly noted in the field of painting. The opening ceremonies of the new multi-million-dollar Imperial Oil Building in Toronto directed special attention to a pair of foyer murals executed by a noted Canadian painter, R. York Wilson, while eight



of Quebec's best known painters worked during 1957 on an elaborate scheme of mural decorations for Montreal's new hotel giant, the *Queen Elizabeth*. Of special interest was the commissioning of Winnipeg painter Tom Luzny to do the great lounge ceiling mural in Britain's new luxury liner *Sylvania*.

Notable collections of paintings, drawings and etchings from other countries exhibited in Canada during 1957 included British 18th Century masterworks, contemporary Australian paintings, Yugoslav contemporary works, and a group of American modernist paintings selected by the Downtown Gallery of New York. Increased activity in the exchange of shows between regions of Canada was highlighted by an exhibition of works by fifteen Quebec artists at nine towns in the Maritime Provinces Art Circuit. Art festivals in Montreal, Vancouver, Edmonton, Calgary, Stratford and Tatamagouche in Nova Scotia and at a number of summer schools enjoyed their best attendance in many years, while public and private galleries in Canada's main centres reported a gratifying quickening of public interest throughout the year. A number of new small private galleries were opened in 1957 and at Fredericton in New Brunswick construction was started on the Lord Beaverbrook Art Gallery—a \$1,500,000 gift to his native province by the noted press peer.

Honours won by Canadians in the visual arts in 1957 included: Canadian Government Overseas Awards to painters Bruno Bobak (Vancouver), Will Ogilvie (Toronto), Jean Simard (Montreal) and Lawren Harris, Jr. (Sackville), and to fine arts scholar Jean Ostiguy of the National Gallery staff in Ottawa; the Oscar Cahen Memorial Award was made to film animator Norman McLaren by the Toronto Art Directors Club; a Guggenheim Foundation Award of \$1,000 to Toronto painter William Ronald; top competitive awards in the *Winnipeg Show* to Tony Urquhart of Niagara Falls and Jacques de Tonnancour of St. Lambert, Que.; the Jessie Dow Award for the best oil in the Spring Exhibition of the Montreal Museum of Fine Arts went to Jeanne Rhéaume. The work of eminent Canadian graphic artists was seen in an unusually large number of special issues of postage stamps during 1957, and

"*Joie de vivre*" is the theme of the murals by Albert Cloutier, RCA, in the main dining room of the new *Queen Elizabeth Hotel* in Montreal. The models used for this panel celebrating good food and drink include graceful examples of the art of the old *Cap Rouge Potteries* and the handsome pieces of tableware made by renowned Quebec silversmiths.





The Summer School of Arts, under the Extension Department of the University of British Columbia, is performing an increasingly active role in the cultural life of the Province. In addition to training students of professional or near-professional calibre, its aim is to satisfy the desire of the whole population for leadership in music, the theatre and the visual arts.

the usual amount of public comment—in the form of letters-to-the-editor of daily newspapers—resulted from each new design.

Music

Musical activity enjoyed a lively season in Canada during 1957 though the lack of suitable housing to accommodate the rapidly expanding musical

events of the country was an almost universal problem. In Calgary and Edmonton great public auditoriums erected at provincial government expense were opened during the year, and Montreal, Toronto and Vancouver all had definite prospects of new and adequate musical quarters in the near future; but in most centres it was a rather dismal picture of antiquated, crowded halls with poor acoustics and worse lighting. Nevertheless, Canada's music world—composers, teachers, schools, concert halls, impresarios, festivals, choirs, soloists, patrons, instrumentalists, orchestras and all the rest—enjoyed a thriving, progressive, successful year.

Some financial help from the new Canada Council was a matter of great satisfaction to a number of leading musical organizations, permitting new projects and travel which would not have been possible otherwise; and a substantial grant to the newly launched *Canadian Music Journal* was favourably regarded by musicians in all parts of the country. The 1957 series of music festivals, involving more than 100,000 performers in cities from coast to coast, reached new heights of artistic excellence, in the opinion of the European adjudicators, but financial problems of some of the festivals became difficult. Symphonic music enjoyed a boom year. The most notable improvement was made by the Ottawa Philharmonic Orchestra—involving employment of a nucleus of thirty-five full-time musicians and a schedule of more than forty performances. In September more than seventy young professional musicians in Montreal launched that city's newest orchestra—the Philharmonia—under the baton of Albert Chamberlain. One-thousand-dollar prizes were offered in 1957 by the Montreal Symphony Orchestra and the Vancouver Festival Society for new symphonic compositions and a similar award was offered by the Vancouver group for a chamber music work. Of considerable interest to musical librarians both at home and abroad was the September 1957 publication of a catalogue of 233 works for symphony orchestras by Canadian composers. It includes symphonies, concertos, ballet suites and overtures as well as works for chorus or soloist with orchestra. Jean Papineau-Couture of the faculty of music of the University of Montreal

Conductors of the large symphony and philharmonic orchestras take special interest in the young people with whom lies the musical future of their communities. These seven soloists appeared in a series of young people's symphony concerts in Montreal during the 1957-58 season.



was elected president of the Canadian League of Composers, succeeding John Weinzwieg of Toronto.

Also of interest to the Canadian music world was the announcement early in 1957 that Toronto's Opera Festival Association would sever its connection with the Royal Conservatory of Music of Toronto. The main purpose of the break was to clear the way for the early development of a fully professional opera company of national proportions. The Toronto company, and companies in Montreal, Ottawa, Halifax, Winnipeg, Vancouver and other cities, enjoyed increased public support in 1957, and the general atmosphere for opera appears to be growing more favourable throughout Canada. A group of about twenty-five of Canada's most experienced musical figures was brought into conference in December by the Canada Council, when plans for the Council's help to Canadian music were considered in both detail and general principle. Of considerable importance was the expansion of the concert activities of the *Jeunesses Musicales* movement beyond Central Canada into the Maritime Provinces and the West; the agency moved into English-language communities under its newly acquired name of *Musical Youth in Canada*. The Canadian Broadcasting Corporation continued to be an important patron of Canadian music, providing over its radio and television networks a year-round fare of fine and popular music and many spectacular symphonic and operatic programs—substantial encouragement for Canadian composers and performers.

Miscellaneous

An event of considerable importance to fine crafts workers in Canada was the Ottawa exhibition in June under the auspices of the National Gallery. Works by Canadian ceramists, enamelists, carvers, weavers, silversmiths and others were gathered on an invitation basis and judged by an international jury of experts. Ninety of the selected works were sent to Brussels for showing in the Canadian Pavilion at the Universal and International Exhibition. To celebrate its tenth anniversary, the New Brunswick branch of the Canadian Handicraft Guild held a Canada-wide competition in metal work, wood carving, jewellery, enamelling, wrought iron, weaving and wood sculpture, and exhibited the winning works in Saint John during April and May. The second biennial show of *Canadian Ceramics* was held in Montreal from May 11 to 28 and subsequently in Toronto, after which a selection of the works was circulated throughout Canada by the National Gallery. A Canadian cultural event of substantial magnitude is planned for July and August 1958—the first Annual Vancouver Festival of the Arts. With a preliminary budget of more than \$300,000, the Festival's directors announced plans for top-calibre performances in all the arts, featuring many world celebrities. A 600-page inventory of the artistic and cultural facilities of Greater Montreal made its appearance in March 1957, the result of four years of work by the Junior League of Montreal, La Ligue de Jeunesse Féminine and the Jewish Junior Welfare League. Two thousand copies of the book were printed.

Cultural Organizations

With the exception of the recently created Canada Council, the most important organizations in Canada engaged in the encouragement and promotion



The work of the hands and the joy of creation will never lose its fascination. Age-old crafts and new ones are followed by all types of people across the land, sometimes in community groups but more often individually and sometimes for profit but more often for relaxation.



of cultural activities are financed and directed by private enterprise. Serving as centres of interest and inspiration for musicians, painters, dancers, dramatists and others working in the arts, these organizations have grown notably in the past ten years and now make their influence felt at the national, provincial and municipal levels. The Royal Canadian Academy of Arts is the oldest national prestige organization; an election to its full membership is regarded as the highest honour open to Canadian artists. Important bodies which have developed since World War II include the Canada Foundation and the Canadian Arts Council. The latter is a federation of national organizations which dominate much of the professional cultural life of Canada, including: the Royal Architectural Institute of Canada, the Canadian Authors Association, La Société des Écrivains Canadiens, the Federation of Canadian Artists, the Canadian Music Council, the Canadian Handicraft Guild, Canadian Guild of Potters, Canadian Group of Painters, Canadian Society of Painter-Etchers and Engravers, Sculptors Society of Canada, Canadian Society of Graphic Arts, Canadian Society of Landscape Architects and Townplanners, the Arts and Letters Club, the Canadian Ballet Association and the Canadian Society of Creative Leathercraft.

Libraries

Public library service, which depends on local initiative, is organized by the municipality and financed by taxation. Canada's large urban centres possess well stocked collections and offer a wide variety of services through their main libraries and branches, bookmobiles, and depots in schools. Public or association libraries serve many small urban centres and rural areas, and in some cases regional units supply service to scattered populations. Travelling libraries, operated by the provincial government or a university extension department, serve by mail still more isolated individuals and communities. In most of the provinces, the provincial government has charge of public library services through its department of education, and assists the municipal unit with grants and advice. University, government, business, professional and technical libraries serve limited groups working in special fields and provide resources essential to study and research.



The National Museum of Canada is a museum of natural history—geology, biology and anthropology. Extensive exhibits of Indian and Eskimo lore are a great attraction for the young.



▲
Book collections are distributed to communities and groups, wherever they are required, by provincial government library agencies and universities.

►
Mobile service is used by an increasing number of large urban, regional and travelling libraries as a means of bringing books to people in outlying areas.



Many libraries are adding to their collections supplementary materials, other than books, which communicate ideas and information. Films, filmstrips, paintings and records are available for loan, and provide recreation, information and education for individuals and groups. Libraries also sponsor such cultural activities as lectures, exhibitions and concerts.

The Canadian Library Association, a nation-wide voluntary organization of libraries, trustees and other interested persons and organizations, is particularly concerned with children's reading and sponsors Young Canada Book Week each year in November to bring to the attention of children and adults

the wealth of children's books available. The following table is based on incomplete returns for the *Survey of Libraries 1954-56* and the *Survey of Libraries 1952-54*, both conducted by the Dominion Bureau of Statistics.

Libraries in Canada by Type

Type	Libraries ¹	Volumes ²	Circulation	Full-Time Staff	Trained Staff ³
	No.	No.	No.	No.	No.
Public, association, regional and travelling (1956).....	825	9,785,987	35,423,236	2,003	647
University and college (1953).....	268	7,630,261	1,878,734 ⁴	545	290
Federal Government (1953).....	102	2,827,557	260,382 ⁵	379	107
Provincial Government (1953).....	99	1,389,516	424,884 ⁶	162	53
Business, professional and technical (1953).....	131	774,629	878,251 ⁷	253	61

¹ Main libraries only.

² In main and branch libraries.

³ University degree

and at least one year of professional library training, i.e., B.L.S.

⁴ 63 libraries re-

porting. ⁵ 51 libraries reporting.

⁶ 43 libraries reporting.

⁷ 56 libraries

A comparison of the figures for public, association, regional and travelling libraries (1956) with those in the *Survey of Libraries 1952-54* for the same group indicates that these libraries reflected the needs of a growing country. A population increase of 8.9 p.c. during the three-year period was paralleled



The opening of the new Central Library in Vancouver on Nov. 1, 1957, was another step forward in the growth of library service in that city. The Vancouver library system also includes six branch libraries, five of which are now housed in new and modern buildings.



by an increase of 7.7 p.c. in the number of these libraries. Volumes increased by 16 p.c. and trained staff by 4 p.c. in this group. The number of borrowers from public, association, regional and travelling libraries in 1956 represented just over 10 p.c. of the population.

Public, Association, Regional and Travelling Libraries, by Province, 1956

Province or Territory	Libraries ¹	Volumes ²	Circulation	Borrowers	Full- Time Staff	Trained Staff ³
	No.	No.	No.	No.	No.	No.
Nfld.....	2	206,961	609,963	51,071	32	6
P.E.I.....	2	99,951	235,408	9,094	11	4
N.S.....	14	285,163	1,164,730	85,047	56	26
N.B.....	11	143,015	285,417	22,443	21	3
Que.....	38	1,402,380	1,768,074	114,144	178	102
Ont.....	490	5,176,940	20,302,493	1,163,224	1,086	337
Man.....	17	261,228	1,440,622	61,701	80	18
Sask.....	73	445,051	1,382,752	82,982	93	24
Alta.....	119	752,498	2,739,946	160,456	121	36
B.C.....	53	992,960	5,484,289	274,628	325	91
Yukon and N.W.T.....	6	19,840	9,542	1,401	—	—
Canada.....	825	9,785,987	35,423,236	2,026,191	2,003	647

¹ Main libraries only. ² In main and branch libraries.
and at least one year of professional library training, i.e., B.L.S. ³ University degree

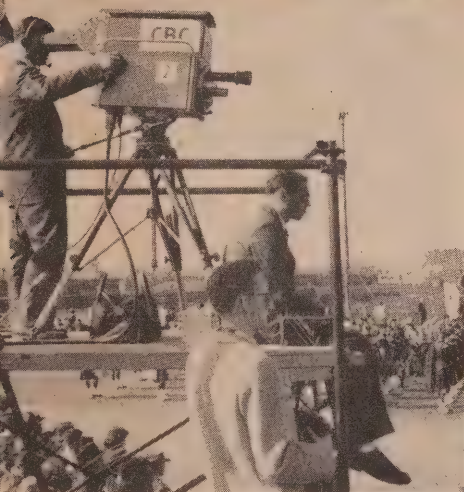
The National Library.—The National Library, awaiting the provision of permanent quarters, has two major projects—the publication of *Canadiana*, a monthly catalogue of books and pamphlets relating to Canada, and the compilation and servicing of the National Union Catalogue. *Canadiana* listed a total of 8,271 new books, pamphlets and government publications for the year ended Mar. 31, 1957.

The microfilming of catalogue cards in all the major libraries in Canada is nearing completion and many libraries throughout the country are turning to the National Union Catalogue for help in locating books in other libraries. The National Library acts as the agent for the Library of Parliament and receives two copies of every book copyright in Canada under the Copyright Act. Cataloguing of this large collection is well under way.

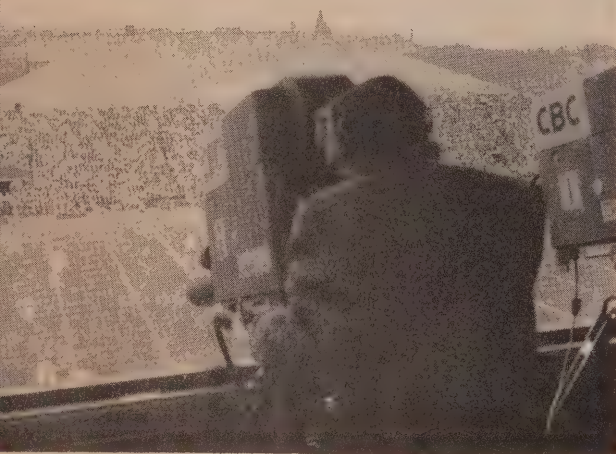
Radio and Television

Broadcasting in Canada, as it has developed over a period of more than 35 years, is a combination of public and private enterprise. Under the Canadian Broadcasting Act authority for this system is vested in a Board of eleven governors appointed by the Governor in Council and chosen to give representation to the principal geographical divisions of Canada. The Board is directly responsible to Parliament for carrying on a national broadcasting service and for the policies of the Canadian Broadcasting Corporation. It administers and supervises regulations observed by both the CBC and privately owned stations and reviews broadcasting activities in the interests of the country as a whole.

Day-to-day operations and executive direction of the CBC are the responsibility of the General Manager. The Corporation's management structure consists of a head office organization and six regional divisions:



During the five years since the birth of television in Canada, Canadians spent some \$1,000,000,000 to buy and maintain TV sets, and 2,500,000 homes watched television about four and a half hours every day of 1957.



Special events attract tremendous audiences—the unfolding drama of the federal election of June 10, 1957, kept 5,000,000 people glued to their sets—three out of every four Canadians saw Her Majesty Queen Elizabeth II and Prince Philip during their October visit to Ottawa and Hull—the Grey Cup game drew a TV audience of perhaps one-third of the population.

British Columbia; Prairies; Ontario and English Networks; Quebec and French Networks; Maritimes; and Newfoundland. General and regional management are assisted by specialists in programs, sales, operations, administration, finance, engineering and public relations.

The CBC is responsible for regulations controlling the establishment of networks and the proportion of time that may be devoted to advertising in broadcast programs. It neither exercises nor authorizes any private station to exercise on its behalf, censorship of any broadcast program. The responsibility of having the regulations observed rests with individual stations.

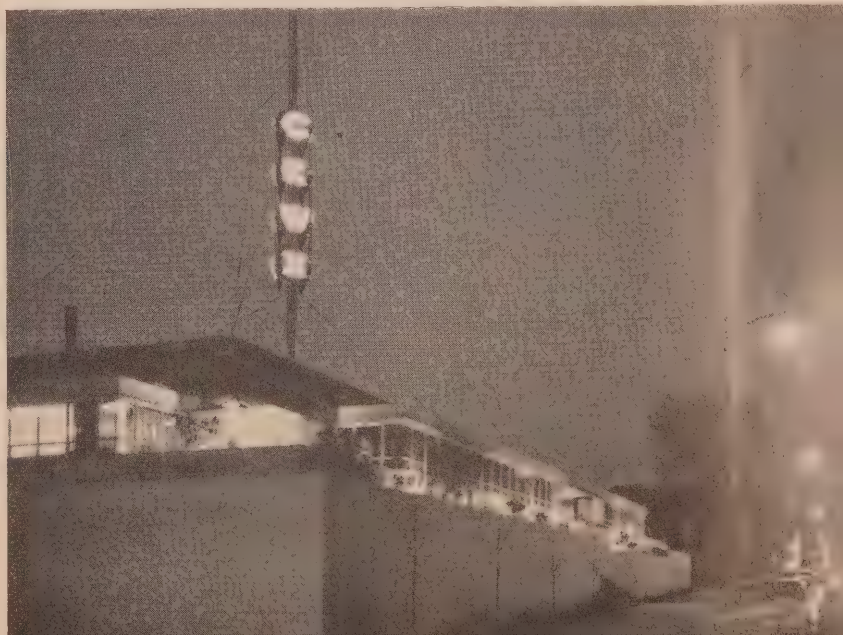
The privately owned stations, which are subject to licensing control by the Department of Transport and to CBC regulations authorized by Parliament, serve the centre in which they are situated and the surrounding districts, providing alternative programs to those of the CBC. In 54 communities across the country which are unable to receive service from a Canadian radio station because of topographical conditions and are not large enough to support their own local station, the CBC provides service by means of unattended, low-power, relay transmitters. All but 77 of the 176 privately owned radio stations form an integral part of the national networks as outlets for national service programming.

The general principles of this system have been approved by fourteen Parliamentary Committees and three Royal Commissions, the most recent of these being the Royal Commission on Broadcasting (chaired by Robert M. Fowler) which conducted an exhaustive study of the country's radio and television broadcasting situation in a series of hearings held in all parts of Canada during 1956, and which submitted its report in March 1957.

Facilities.—All the privately owned television stations and many of the privately owned radio stations operate in partnership with the CBC in distributing national radio and television services over five networks—in radio, the Trans-Canada, French and Dominion networks and, in television, the English and French networks. The networks are operated by the CBC. Network radio service is available to approximately 95 p.c. of the population, while 90 p.c. is within range of Canada's national television service.

As of Jan. 1, 1958, there were 24 CBC radio stations and eight CBC television stations; 176 privately owned radio stations and 37 privately owned television stations. In addition there were 11 shortwave stations, of which three were CBC and eight privately owned; five CBC and 25 non-CBC frequency-modulation stations; and 54 low-power relay transmitters. Two TV stations, in addition to those mentioned above, are managed by the CBC

Broadcasting in Canada, both radio and television, is a combination of public and private enterprise. CKWX of Vancouver, one of the 176 privately owned radio stations, is now operating in a new building and has increased its power to 50,000 watts.



and use United States facilities, under international agreement, at Goose Bay (Labrador) and Harmon Field, Nfld. These serve United States and Canadian military personnel as well as Canadian civilian population.

The CBC's income, pending possible changes resulting from recommendations of the Fowler Commission, is derived from a 15-p.c. excise tax on radio, television and phonograph sets and tubes, and revenue from commercial programs, with the remainder made up from parliamentary grants. Income of privately owned stations is derived from commercial operations.

Radio Program Service.—Canada's system of broadcasting is designed to overcome the problems posed by great distances, a scattered population, and six of the world's 24 time zones. Programs are planned regionally and nationally on CBC networks, and provide a substantial amount of Canadian production as well as outstanding programs from other countries. They offer a wide range of material including programs of substance and a good measure of straight entertainment.

Through CBC facilities, schools across Canada are provided with at least 30 minutes daily of broadcast programs specifically planned by departments of education to meet classroom requirements. In addition, national school broadcasts, prepared with the advice of the departments of education and teachers and financed by the CBC, are heard on Fridays. Canada's agricultural population is served by the most complete service of farm broadcasts in the world, including the weekly National Farm Radio Forum, which has about 8,500 members across Canada. Citizens' Forum provides a national platform for discussion of topics of current interest. Programs of interest to women are scheduled for afternoon listening, there are special children's programs for out-of-school listening, and time is allotted regularly for religious programs. Free-time political broadcasts arranged with the various parties are heard both nationally and regionally. The special CBC Wednesday Night program offers a full evening of the finest in drama, music, talks, poetry and recitals.

Television.—Canadian television began in September 1952, when the CBC's first television stations, CBFT and CBLT, were opened at Montreal and Toronto, respectively. As of Jan. 1, 1958, there were 10 CBC stations: at Vancouver (CBUT), Winnipeg (CBWT), Toronto (CBLT), Ottawa (CBOT and French-language CBOFT), Montreal (CBFT and English-language CBMT), Halifax (CBHT), Goose Bay (CFLA-TV) in Labrador, and Harmon Field (CFSN-TV) in Newfoundland.

Privately owned stations were operating from 37 other centres: Victoria, Kamloops and Vernon, B.C.; Calgary, Edmonton, Medicine Hat, Red Deer and Lethbridge, Alta.; Regina, Swift Current, Prince Albert and Saskatoon, Sask.; Brandon, Man.; Sault Ste. Marie, Port Arthur, Sudbury, Timmins, North Bay, Barrie, Wingham, Windsor, London, Kitchener, Hamilton, Kingston and Peterborough, Ont.; Sherbrooke, Quebec City, Rimouski, Rouyn and Jonquière, Que.; Moncton and Saint John, N.B.; Charlottetown, P.E.I.; Sydney, N.S.; and St. John's, Nfld.

This development brought Canadian television within range of 90 p.c. of the population. Actually, almost 70 p.c. of all Canadian homes were equipped with TV and, at the start of 1958, this approached the total of 2,800,000 homes. Of the total of 47 stations, 33 between Rimouski and

Nearly 15,000 artists—singers, musicians, actors, writers, commentators and panellists—worked for the CBC during 1957, in addition to the 6,000 technicians and other full-time staff.



Through the efforts of these people, the program spectrum has been broad . . . "CBC programs, principally Canadian in origin but augmented by a selection from abroad, have been concerned with entertainment and relaxation; the importing of objective news and information; the vitality of the nation's democratic institutions and values—free speech, the rule of law, respect for the individual, freedom of worship, freedom of inquiry; the health of the nation; the efficiency of its economy and its good repute abroad; the education of youth; and the creative arts which are the life-blood of its programs".



Edmonton are joined by microwave-relay network facilities while four Maritime stations—Halifax and Sydney, N.S., and Saint John and Moncton, N.B.—are linked as a regional network. Connections with the remainder of the network will be completed early in 1958 and, later in the year, the microwave circuits westwards from Edmonton to the Pacific Coast will be completed.

Today Canada is second in the world in terms of "live" television production and in terms of number of television transmitters in use. CBC television has developed a program schedule covering the wide range of entertainment achieved in its sound broadcasting, and based on the same objectives. On the English network more than 55 p.c. of the schedule is made up of Canadian programming and on the French network more than 75 p.c. is Canadian-produced. These programs have included weekly drama series, leading sports events, children's series, news, variety, discussions, and many other types of programs. The majority of Canadian television productions are "live" from studios at Toronto and Montreal, but regional and national shows are also produced in studios at Vancouver, Winnipeg, Ottawa and Halifax. Some programs shown on the CBC network are fed directly from United States networks via the microwave relay and some film features from other countries are also offered. Three separate experiments in television for school children have been undertaken by the CBC School Broadcasts Department in collaboration with the provincial departments of education. The results are under study.

CBC International Service.—The International Service is financed wholly by funds voted by Parliament. The main program and production headquarters are in the Radio Canada Building at Montreal and two powerful 50,000-watt transmitters at Sackville, N.B., are linked with the studios at Montreal by a landline 600 miles long. Altogether the shortwave broadcasts of the International Service are listened to in some 30 countries. The programs are broadcast in 16 languages: English, French, German, Dutch, Danish, Swedish, Norwegian, Italian, Spanish, Portuguese, Czech, Slovak, Polish, Russian, Ukrainian and Hungarian. Countries having poor reception for geographical reasons, such as Austria and Greece, receive transcribed programs. The International Service endeavours to give listeners in other lands Canadian views on international affairs and a picture of Canadian life, with special reference to cultural, social and economic development.

National Film Board

The importance of the non-theatrical film, filmstrip and still photograph as a medium of information was recognized by the Federal Government in 1939 when the National Film Board was established. Since that time the Board has become well known in Canada and abroad as a national documentary film producing and distributing organization whose function it is to interpret Canada to Canadians and to the people of other nations in an interesting and factual manner. That it has done so with distinction is evidenced by the fact that more than 200 awards of Canadian and international significance have been made to NFB productions.

During the year ended Mar. 31, 1957, the Board created 145 new films, made 32 newsclips, shot 43 newsreel stories, produced one trailer and five

picture-stories for television, and contracted for independent production of 35 other films—a total of 261 completions.

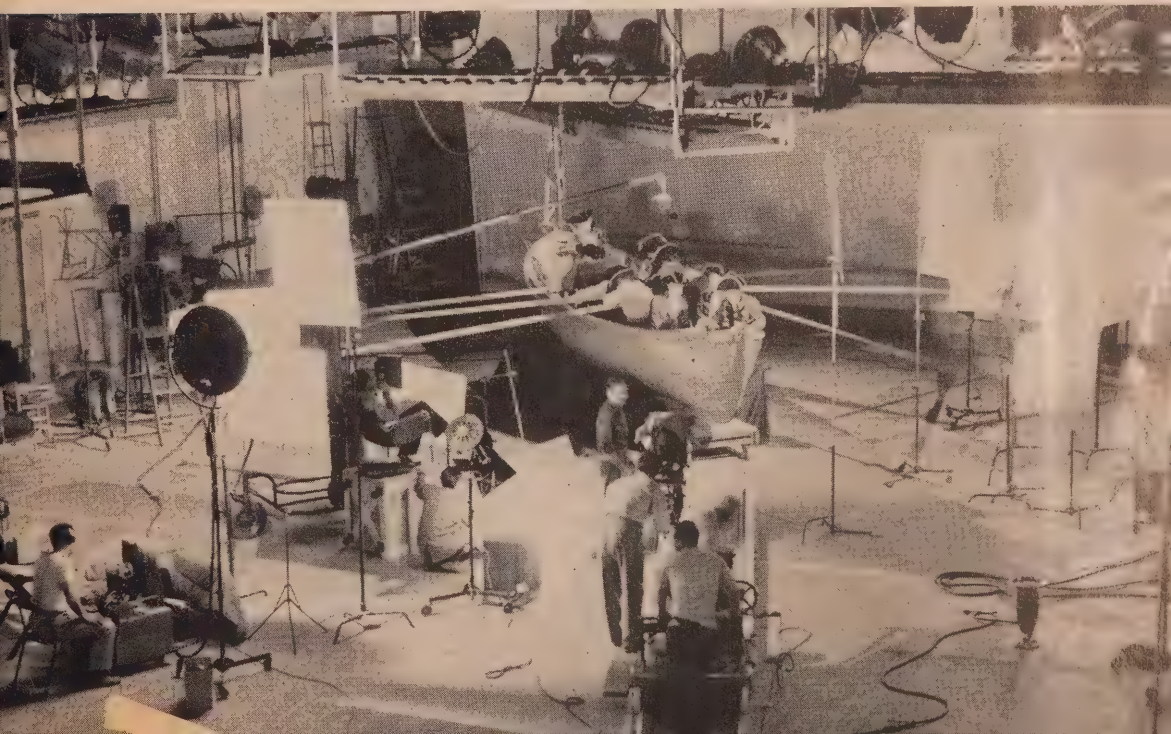
NFB productions are shown throughout the world in commercial theatres, on television wherever it is in operation and to non-theatrical audiences at home and abroad. Non-theatrical showings in Canada reached an audience of 15,323,600 in 1956-57 and, in addition, an undetermined number of people saw NFB films purchased by film libraries, schools, industries and other organizations. During the year, 6,078 films were sold, 3,331 in Canada and 2,747 abroad; and 16,182 filmstrips were sold, 12,023 in Canada and 4,159 in other countries.

Abroad, Canadian films are distributed through many channels—through posts of the Department of External Affairs and Trade and Commerce, through deposits with state and local film distribution agencies, and through exchange agreements with various foreign governments. The total non-theatrical audience of Canadian films abroad numbered 18,142,900.

There were 6,860 bookings of NFB films by theatres in Canada and 16,450 abroad. Hundreds of films from NFB's non-theatrical film library are accessible to television stations in Canada and elsewhere. During the period under review there were 7,704 telecasts of these films, 5,110 in Canada and the remainder abroad, principally in the United States and the United Kingdom.

The National Film Board is a Crown corporation whose executive consists of a Commissioner and eight other members, three of whom are appointed from the public service. Members of the Board, other than the Commissioner whose tenure of office is five years, are appointed for three-year periods. The office of the Commissioner and certain headquarters personnel are located in Ottawa but the Board functions from its recently completed plant in St. Laurent, Que.

Scene from "Wolfe and Montcalm" being filmed by the National Film Board for television release. Events of historical interest are thus brought to life for the TV audience.



Parks and Travel

CANADA in its immensity, with its great range of topography, its wide differences in climate, its oldness and its newness, its activities and its solitudes, holds an infinity of interest for the vacationer and traveller. It is a land of spectacular and

awe-inspiring mountain peaks, of icefields and glacial lakes and rivers, of wide windswept prairies, of rocky eroded hills, deep pine-edged lakes and rushing trout-filled streams, of rugged sea-washed shores and sheltered golden beaches. It is a land of great modern cities, of quiet villages born in history and of new bustling towns carved out of the wilderness. It is a land of seasons—fresh vibrant springs moving into warm pleasant summers, crisp gay autumns of unbelievable colour settling under a mantle of snow and cold clean air.

Many areas of scenic and other interest have been set aside to be preserved in their natural state for the enjoyment of all those who love the out-of-doors—some of them wilderness areas far removed from civilization and untouched by the hand of man and others easily accessible by highway, rail or air and provided with comfortable moderate-priced or luxurious living accommodation and sport facilities of every kind. The first national parkland was created in 1885 around the hot mineral springs at Banff in the Alberta Rockies, a park that has since been extended to cover 2,500 sq. miles of astounding beauty and has become internationally famous as a vacation resort. Fifteen other scenic areas across the country have since been allocated as national parks, together having an area of more than 29,000 sq. miles. The latest addition is a wilderness area of 156 sq. miles on Bonavista Bay in Newfoundland, the new Terra Nova Park. Two large parks are mainly big-game preserves where herds of buffalo and other animals find sanctuary. In addition, a number of areas of national historic importance have been designated as national parks, most of them in the Maritime Provinces, Quebec and Ontario where the early struggles for possession took place and evidences of old forts and settlements remain.

Indeed, these scenic and historic parks are Canada's greatest single tourist attraction. All previous attendance records were broken in 1957 when 4,045,766 visitors were recorded. The parks are administered by the



Indian rodeo at Banff National Park in Alberta.



Bennett Lake, Fundy National Park, New Brunswick.

Historic Fort Anne, Annapolis Royal, Nova Scotia

Department of Northern Affairs and National Resources. A warden service protects the forests and wildlife and maintains constant vigilance for the safety and comfort of visitors. National park names and areas are as follows:—

<u>Park</u>	<u>Area</u>	<u>Park</u>	<u>Area</u>
SCENIC	sq. miles	WILD ANIMAL	sq. miles
Jasper, Alta.	4,200.0	Wood Buffalo, Alta. and N.W.T.	17,300.0
Banff, Alta.	2,564.0	Elk Island, Alta.	75.0
Prince Albert, Sask.	1,496.0		
Riding Mountain, Man.	1,148.0	HISTORIC	acres
Kootenay, B.C.	543.0	Fortress of Louisburg, N.S.	339.5
Glacier, B.C.	521.0	Fort Lennox, Que.	210.0
Yoho, B.C.	507.0	Fort Beauséjour, N.B.	81.3
Cape Breton Highlands, N.S.	390.0	Fort Prince of Wales, Man.	50.0
Waterton Lakes, Alta.	204.0	Halifax Citadel, N.S.	36.9
Terra Nova, Nfld.	156.0	Fort Battleford, Sask.	36.7
Mount Revelstoke, B.C.	100.0	Fort Anne, N.S.	31.0
Fundy, N.B.	79.5	Port Royal, N.S.	20.5
Prince Edward Island, P.E.I.	7.0	Woodside, Ont.	11.0
Point Pelee, Ont.	6.0	Lower Fort Garry, Man.	12.8
Georgian Bay Islands, Ont.	5.4	Fort Wellington, Ont.	8.5
St. Lawrence Islands, Ont.	189.4	Fort Malden, Ont.	5.0
	(acres)	Fort Chambly, Que.	2.5

Hundreds of other historic sites have also been marked or acquired by the Historic Sites and Monuments Board, commemorating events or personalities who have played a distinctive part in the shaping of the nation. Their attendance records in 1957 showed 389,726 visitors.

Gatineau Park, a 75,000-acre area immediately north and west of the Capital City of Ottawa, deserves mention as the popular summer and winter playground of the Capital area. It, too, is being preserved in its natural state and developed as a park and game sanctuary. A 45-mile scenic driveway, now under construction, will open up this beautiful hill and lake country making accessible its many beaches, trails, campsites, fishing spots and excellent winter skiing areas.

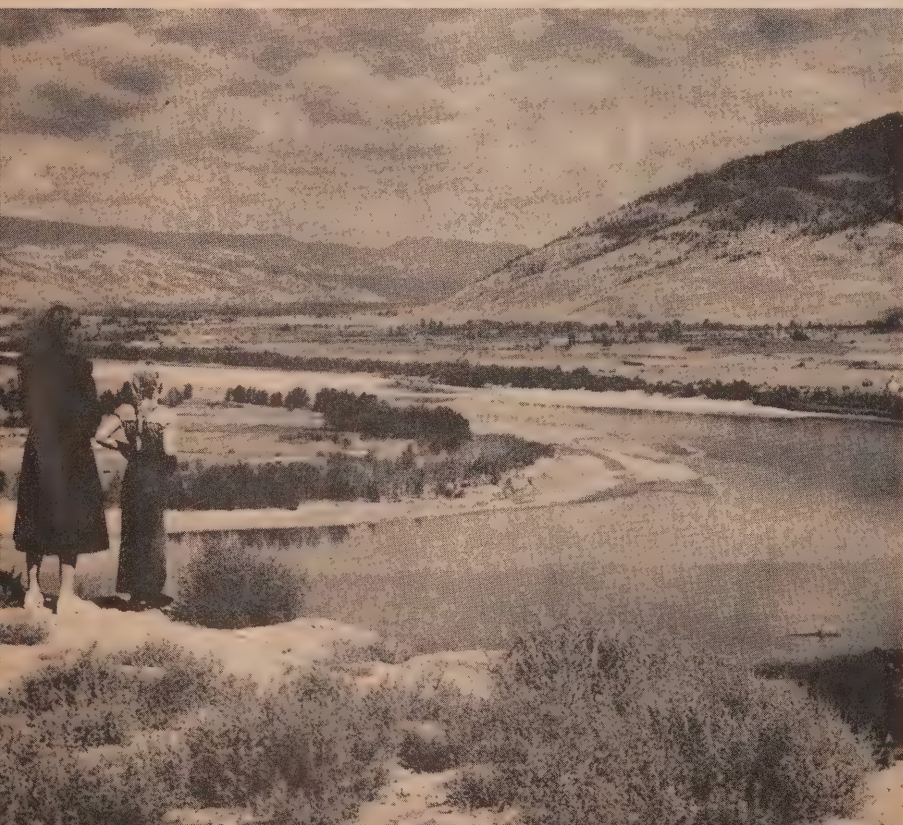
Seven of the provincial governments have established provincial parks. Though many of them are as yet undeveloped, some of the larger parks, especially in British Columbia, Quebec and Ontario, are well served with tourist accommodations and organized recreational facilities. The total area of provincial parkland is about 56,422 sq. miles, located as follows: Quebec, 36,264 sq. miles; British Columbia, 12,706 sq. miles; Ontario, 5,189 sq. miles; Saskatchewan, 1,146 sq. miles; Manitoba, 950 sq. miles; Alberta, 119 sq. miles; and Newfoundland, 48 sq. miles. In Manitoba, park developments are being carried out in three of the Province's forest reserves having a combined area of 3,094 sq. miles.

Travel Between Canada and Other Countries

In 1957 a new record was set in volume of travel between Canada and other countries, totalling 56,000,000 visits compared with 54,900,000 in 1956. Visits to Canada by residents of other countries numbered 28,700,000 as against 27,700,000 in the previous year, but Canadians reciprocated with 27,300,000 visits compared with 27,200,000 in 1956.

Expenditures by visitors to Canada in 1957 reached an all-time high of \$362,000,000, an increase of 7 p.c. over the previous record of \$337,000,000 in 1956. At the same time Canadians spent nearly \$523,000,000 travelling in other countries, 5 p.c. more than in 1956. Hence, Canada's deficit on travel account did not change during 1957, but remained at \$161,000,000.

The number of visitors from the United States to Canada advanced slightly in 1957 to 28,619,000 or 3 p.c. over the 1956 total of 27,667,000, and expenditures by American visitors in Canada rose to a new high of \$328,000,000 or 6 p.c. over the \$309,000,000 recorded in 1956. These receipts from the travel industry benefit a host of Canadian people not usually thought of as being connected with the industry. A special survey conducted in 1956 reveals that approximately 31 p.c. of each travel dollar is spent on food and



The Thompson River Valley, near Kamloops in south-central British Columbia.

With the first fall of snow, a carnival spirit grips the imagination of the hearty Quebecois and their visitors.

Governor General Massey and "Bonhomme Carnaval", happy spirit of the Quebec Winter Carnival, gaily start the merry round of festivities, traditional with the people of Quebec City.



Tourists, who flock by the thousands to the colourful hamlets and towns in the world-famed ski resort areas north of Montreal, enjoy the fun of the Laurentian Winter Carnival at Ste. Agathe des Monts.

beverages, thus benefiting not only the establishments serving meals and their employees but the producers supplying the food. Money spent on lodging adds to the incomes of persons managing or employed in lodging establishments and indirectly to such people as construction workers and furniture manufacturers. Transportation expenditures bring increased revenue to innumerable people from the service station attendant to the oil-well worker in Alberta, while the provincial governments benefit through the gasoline tax.

These receipts have the same effect on Canada's balance of international payments as commodities exported. The amount of travel that Canada "sold" to the United States in 1957 was second only in value to its exports of newsprint. An outstanding feature of receipts from the sale of travel is that the scenery of Canada, which is the country's main attraction, according to the special survey, can be "exported" to residents of other countries year after year without depletion, an attribute not characteristic of many other industries or many other commodities.

The number of Canadian visitors to the United States, on the other hand, rose slightly to 27,209,000 in 1957 from 27,077,000 in 1956, while expenditures climbed to a new high of \$403,000,000 or \$12,000,000 more than the previous year, thereby exceeding the amount spent by Americans in Canada by \$75,000,000. Canadian travel expenditures in the United States have a similar effect on the balance of international payments as have commodities imported from that country. As an indication of its relative magnitude, the amount of travel that Canadians "purchased" from the United States in 1957 was second only to imports of non-farm machinery.

A very large part of the movement across the continent-wide border is connected with international commuting and other local visits. The Province of Ontario normally accounts for about 60 p.c. of the entries into Canada on travellers' vehicle permits. Convenient communications as well as the proximity to the border of large groups of the population of both countries and the fact that neither passports nor visas are required, facilitate the great many short-term visits between Canada and the United States.

The breakdown on long- and short-term visits remains fairly constant from year to year. About 84 p.c. of the visits of Americans to Canada in 1956, or 23,259,000, were classed as short-term, that is of two days or less, while Canadians spending two days or less in the United States numbered 22,799,800—again 84 p.c. of the total. However, American expenditures during these short visits in Canada in that year amounted to \$73,813,000 or 23.9 p.c. of their total expenditures, while Canadians visiting the United States for short periods spent only \$54,120,000 or 13.8 p.c. of the total.

The reverse was true in regard to long-term visits (over two days). In 1957, 4,407,000 Americans or 15.9 p.c. of the total spent \$235,546,000 or 76.1 p.c. of the total expenditures in Canada and a similar number of Canadians—4,277,000 or 15.8 p.c. of the total—spent \$336,965,000 or 86.2 p.c. of the total expenditures in the United States.

A new record was established in the number of visits to overseas countries by Canadians during 1957. The number of Canadians returning to Canada from overseas was 119,900 (exclusive of those travelling through the United States). Also the amount of money spent by Canadians in overseas countries rose to \$120,000,000, exceeding the 1956 record by 12 p.c. or \$13,000,000.

Non-resident travellers (other than immigrants and persons entering Canada by way of the United States) arriving in Canada direct from overseas countries numbered 36,600 in 1957, an increase over the 1956 figure of 6,000.

Expenditures by these visitors were estimated at \$34,000,000, \$6,000,000 more than in 1956. Thus the debit balance on account between Canada and overseas countries in 1957 stood at \$86,000,000.

The balance of payments on travel account between Canada and other countries for 1951-57 were, in millions of dollars:—

<u>Item</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957^P</u>
Account with the United States—							
Credits.....	258	257	282	283	303	309	328
Debits.....	246	294	307	320	363	391	403
Net.....	+12	-37	-25	-37	-60	-82	-75
Account with Overseas Countries—							
Credits.....	16	18	20	22	25	28	34
Debits.....	34	47	58	69	86	107	120
Net.....	-18	-29	-38	-47	-61	-79	-86
Account with All Countries—							
Credits.....	274	275	302	305	328	337	362
Debits.....	280	341	365	389	449	498	523
Net.....	-6	-66	-63	-84	-121	-161	-161



"Sometime we shall remember them; from out the days that bind us,
A year long, a life long, that link and hold us fast,
Will come a breath of twilight blast with wood smoke to remind us
Of the little camping places in the springtimes that are past."

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